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Graduate School
1978–1979

April 1978

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University of New Haven

Graduate Bulletin
1978-1979

Main Campus:

300 Orange Avenue
West Haven, Connecticut 06516

This bulletin supersedes all previous bulletins, catalogs and brochures published by the Graduate School and describes academic programs to be offered during 1978–1979. Graduate students admitted to the university in the fall of 1978 and thereafter are bound by the regulations published in this bulletin.

The University of New Haven does not discriminate on the basis of age. race. sex. religion, national origin or handicap in admission or treatment of students or in recruitment and treatment of employees.

The male generic terms appearing throughout this book refer to both males and females and are used for grammatical simplicity and semantic convenience.

The university reserves the right, at any time, to make whatever changes may be deemed necessary in admission requirements, fees, charges, tuition, regulations and academic programs prior to the start of any class, term, semester, trimester or session.

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ACADEMIC CALENDAR 1978–1980

Graduate School

1978–79

SUMMER TERM: Wednesday, July 5–Thursday, August 17

Fall term deadline for completed applications for admission and for financial aid *	August 1

FALL TERM: Monday, September 11–Saturday, December 16

Last day to register or to add a class	Monday, September 18
Last day to file petition for graduation at January Commencement	Friday, October 13
Fall holiday	Monday–Tuesday, October 9–10
Thanksgiving vacation	Wednesday–Sunday, November 22–26
Winter term deadline for completed applications for admission and for financial aid *	December 1

WINTER TERM: Tuesday, January 2–Monday, April 2

Last day to submit grades for students expecting to graduate in January Commencement	Monday, January 8
Last day to register or to add a class	Tuesday, January 9
Commencement	Sunday, January 21
Holiday (President's Day) (Monday classes will meet Friday, February 23)	Monday, February 19
Spring term deadline for completed applications for admission and for financial aid *	March 1
Last day to file petition for graduation at June Commencement	March 1

SPRING TERM: Friday, April 6–Saturday, July 7

Last day to register or add a class	Monday, April 16
Spring holiday	Friday, April 13

* Prospective students completing their applications after this date may register for one term as nonmatriculated students. This registration of those whose applications are in process does not guarantee acceptance.

Last day to submit grades for students expecting to graduate in June Commencement	Monday, May 14
Holiday (Memorial Day) (Monday classes will meet Friday, June 1)	Monday, May 28
Commencement	Sunday, June 3
Holiday (Independence Day) (Wednesday classes will meet Friday, July 6)	Wednesday, July 4

1979–80

SUMMER TERM: Monday, July 16–Tuesday, August 28

Fall term deadline for completed applications for admission and for financial aid *	August 1

FALL TERM: Monday, September 10–Saturday, December 15

Last day to register or to add a class	Monday, September 17
Last day to file petition for graduation at January Commencement	Friday, October 12
Thanksgiving vacation week	Monday–Sunday, November 19–25
Winter term deadline for completed applications for admission and for financial aid *	December 1

WINTER TERM: Wednesday, January 2–Tuesday, April 1

Last day to submit grades for students expecting to graduate in January Commencement	Monday, January 7
Last day to register or to add a class	Tuesday, January 14
Commencement	Sunday, January 20
Holiday (President's Day) (Monday classes will meet Friday, February 22)	Monday, February 18
Last day to file petition for graduation at June Commencement	Friday, February 29
Spring term deadline for completed applications for admission and for financial aid *	March 1

SPRING TERM: Monday, April 7–Saturday, July 5

Last day to register or add a class	Monday, April 14
Last day to submit grades for students expecting to graduate in June Commencement	Monday, May 12

* Prospective students completing their applications after this date may register for one term as nonmatriculated students. This registration of those whose applications are in process does not guarantee acceptance.

Holiday (Memorial Day) (Monday classes will meet Friday, May 30)	Monday, May 26
Commencement	Sunday, June 1
Holiday (Independence Day) (Friday classes will meet Saturday, July 5)	Friday, July 4

Undergraduate Day Division

Fall Semester 1978

Tuition due	Monday, August 7
Residence charge due	Monday, August 7
Residence Hall opens	Noon, Saturday, September 2
Orientation for first year students	Tuesday, September 5
Classes begin	Wednesday, September 6
Last day to **add** courses	Friday, September 15
Last day to petition for January graduation	Friday, October 13
Last day to **drop** courses	Friday, October 20
Holiday (Thanksgiving)	Thursday–Friday, November 23–24
Classes end	Thursday, December 14
Reading day	Friday, December 15
Final Examinations	Saturday–Friday, December 16–22
Last day of semester	Friday, December 22
Residence Hall closes	6:00 p.m., Saturday, December 23
Commencement	Sunday, January 21

Spring Semester 1979

Tuition due	Tuesday, January 2
Residence charge due	Tuesday, January 2
Residence Hall opens	Noon, Saturday, January 13
Orientation for new students	Thursday, January 18
Classes begin	Friday, January 19
Last day to **add** courses	Friday, January 26
Holiday (President's Day)	Monday, February 19
Last day to petition for June graduation	Thursday, March 1
Last day to **drop** courses	Friday, March 2
Spring vacation	Saturday–Sunday, March 10–18
Classes resume	Monday, March 19

Holiday (Good Friday)	Friday, April 13
Classes end	Friday, May 4
Reading day	Monday, May 7
Final Examinations	Tuesday–Monday, May 8–14
Last day of semester	Monday, May 14
Residence Hall closes	6:00 p.m., Tuesday, May 15
Commencement	Sunday, June 3

Fall Semester 1979

Tuition due	Monday, August 6
Residence charge due	Monday, August 6
Residence Hall opens	Noon, Saturday, September 1
Orientation for first year students	Tuesday, September 4
Classes begin	Wednesday, September 5
Last day to **add** courses	Friday, September 14
Last day to petition for January graduation	Friday, October 12
Last day to **drop** courses	Friday, October 19
Holiday (Thanksgiving)	Thursday–Friday, November 22–23
Classes end	Thursday, December 13
Reading day	Friday, December 14
Final Examinations	Saturday–Friday, December 15–21
Last day of semester	Friday, December 21
Residence Hall closes	6:00 p.m., Saturday, December 22
Commencement	Sunday, January 20

Spring Semester 1980

Tuition due	Monday, December 31
Residence charge due	Monday, December 31
Residence Hall opens	Noon, Saturday, January 12
Orientation for new year students	Thursday, January 17
Classes begin	Friday, January 18
Last day to **add** courses	Friday, January 25
Holiday (President's Day)	Monday, February 18
Last day to petition for June graduation	Friday, February 29
Last day to **drop** courses	Friday, February 29
Spring vacation	Saturday–Sunday, March 8–16
Classes resume	Monday, March 17
Holiday (Good Friday)	Friday, April 4
Classes end	Friday, May 2
Reading day	Monday, May 5
Final Examinations	Tuesday–Monday, May 6–12
Last day of semester	Monday, May 12
Residence Hall closes	6:00 p.m., Tuesday, May 13
Commencement	Sunday, June 1

Division of Evening Studies (Undergraduate)

Summer Semester 1978

Registration period	Tuesday–Friday, May 30–June 9
Tuition due	Monday, June 12
First term classes begin	Monday, June 12
Holiday (Independence Day)	Tuesday, July 4
First term final examinations	Monday, July 17
Second term classes begin	Thursday, July 20
Second term final examinations	Wednesday, August 23

Fall Semester 1978

Registration for current and former students	Monday–Friday, August 14–25
Registration for new students	Tuesday–Wednesday, August 29–30
Tuition due	Wednesday, September 6
Classes begin	Wednesday, September 6
Last day to **add** courses	Friday, September 15
Last day to petition for January graduation	Friday, October 13
Last day to **drop** courses	Friday, October 20
Holiday (Thanksgiving)	Wednesday–Sunday, November 22–26
Classes end	Friday, December 15
Final examinations	Saturday–Friday, December 16–22
Commencement	Sunday, January 21

Spring Semester 1979

Registration for current and former students	Tuesday–Monday, January 2–8
Registration for new students	Monday–Tuesday, January 8–9
Tuition due	Friday, January 12
Classes begin	Friday, January 19
Last day to **add** courses	Friday, January 26
Holiday (President's Day)	Monday, February 19
Last day to petition for June graduation	Thursday, March 1
Last day to **drop** courses	Friday, March 2
Spring vacation	Sunday–Sunday, March 11–18
Classes resume	Monday, March 19
Holiday (Good Friday)	Friday, April 13
Classes end	Tuesday, May 8

Final examinations	Wednesday–Tuesday, May 9–15
Commencement	Sunday, June 3

Summer Semester 1979

Registration period	Tuesday–Friday, May 29–June 8
Tuition due	Monday, June 11
First term classes begin	Monday, June 11
Holiday (Independence Day)	Wednesday, July 4
First term final examinations	Monday, July 16
Second term classes begin	Thursday, July 19
Second term final examinations	Wednesday, August 22

Fall Semester 1979

Registration for current and former students	Monday–Friday, August 13–24
Registration for new students	Tuesday–Wednesday, August 28–29
Tuition due	Wednesday, September 5
Classes begin	Wednesday, September 5
Last day to **add** courses	Friday, September 14
Last day to petition for January graduation	Friday, October 12
Last day to **drop** courses	Friday, October 19
Holiday (Thanksgiving)	Wednesday–Sunday, November 21–25
Classes end	Friday, December 14
Final examinations	Saturday–Friday, December 15–21
Commencement	Sunday, January 20

Spring Semester 1980

Registration for current and former students	Wednesday–Tuesday, January 2–8
Registration for new students	Tuesday–Wednesday, January 8–9
Tuition due	Friday, January 11
Classes begin	Friday, January 18
Last day to **add** courses	Friday, January 25
Holiday (President's Day)	Monday, February 18
Last day to petition for June graduation	Friday, February 29
Last day to **drop** courses	Friday, February 29
Spring vacation	Sunday–Sunday, March 9–16
Classes resume	Monday, March 17
Holiday (Good Friday)	Friday, April 4
Classes end	Tuesday, May 6
Final examinations	Wednesday–Tuesday, May 7–13
Commencement	Sunday, June 1

GENERAL INFORMATION

History of the university

Since its founding in 1920, the University of New Haven has grown from a small junior college to a major, urban, coeducational independent university.

Begun as New Haven YMCA Junior College, a branch of Northeastern University, the college became New Haven College in 1926 by an act of the Connecticut General Assembly. For nearly 40 years, the college held classes in space rented from Yale University. In September 1958, the college completed construction of a classroom building on Cold Spring Street, New Haven, for its daytime engineering building.

That same year, the college received its first authorization from the Connecticut Legislature to offer the Bachelor of Science degree in fields of business accounting, management and industrial engineering.

But though its student body on the new Cold Spring Street campus numbered fewer than 200 persons, the college's facilities were fast becoming overcrowded. To meet the needs of the college and the local community, the Board of Governors purchased in 1960 the three buildings and 25 acres of land in West Haven which formerly belonged to the New Haven County Orphanage. The combination of greatly increased classroom space and the four-year degree program sparked a period of tremendous growth in enrollment and facilities. In 1961, the year after the college moved to West Haven, the graduating class numbered 75. Fifteen years later, that figure had climbed to 1,000.

The acquisition of 28 acres of undeveloped land near the main campus in 1962 made possible the construction of playing fields, tennis courts and a new Physical Education-Auditorium Building. In October

1974, the Marvin K. Peterson Library on the Main Campus opened to students.

New Haven College received full accreditation of its baccalaureate programs from the New England Association of Schools and Colleges in 1966, which enabled the college to work toward the achievement of one of its principal objectives: to provide leaders and professional personnel with an understanding of important cultural and scientific progress, and to encourage students to reach their maximum potential.

In 1969, the college took a major step foward with the addition of the Graduate School. Initially offering programs in business administration and industrial engineering, the Graduate School expanded rapidly. Today, 20 programs and additional courses have pushed graduate enrollment to more than 1800.

FROM COLLEGE TO UNIVERSITY

On the fiftieth anniversary of the founding of the college, in 1970, New Haven College became the University of New Haven, reflecting the increased scope and the diversity of academic programs offered. Originally founded to meet a single distinct need in the New Haven community, the institution now ranks as a major academic institution offering programs in more than 50 different areas of study. This wide range of studies provides a total educational experience for University of New Haven students.

In the past 17 years, the institution has grown from a small college with 1,000 part-time, undergraduate evening students to a diverse urban university enrolling nearly 8,000 full- and part-time, graduate, undergraduate and special students on the main campus in West Haven and at seven locations around the state.

Today, the university offers some 100 graduate and undergraduate degree programs in five schools: the Graduate School and the Schools of Arts and Sciences, Business Administration, Engineering and Professional Studies and Continuing Education.

Undergraduate courses and programs are offered in West Haven on the main campus as well as on the Mitchell campus in New London and on the Saint Joseph's College campus in Hartford.

Graduate courses and programs are offered in West Haven and in Greenwich, Danbury, Middlebury, Waterbury, Middletown, Groton and New London.

The University of New Haven has continually expanded its course and program offerings. Four years ago, the university adopted a policy for the 1970's which, in part, directed particular attention to the educational needs of the people of the state of Connecticut through programs in both day and evening divisions that reflect the needs of the area and of the times.

THE FUTURE

Plans for the growth of the university center around the $12 million

Campaign for Excellence, a multi-purpose campaign which calls for building construction, the endowment of scholarships, the expansion of library resources, the creation of endowed professorships and for general campus improvements. In the fall of 1977, the Campaign received an anonymous testamentary bequest of more than $3 million, which pushed the campaign total to roughly $5 million.

Philosophy of the University

The basic assumptions and goals which have governed and continue to govern the academic programs and life of the university are: the belief that there is value and virtue in a general education to help students acquire an understanding of society and the place of the individual within it; a conviction that the hallmark of an educated person is a critical mind in the sense of a capacity to test and challenge previous assumptions and new ideas; a strong commitment to the principle that in a complex and technological society a university cannot be insensitive to the need of its students for professional training which will enable them to obtain rewarding and productive employment; and that a higher education must provide students with a breadth of knowledge and a sensitivity to weigh ethical and moral issues and form values and life goals.

Other assumptions and considerations governing the academic programs and activities of the university have been: recognition of the need for students to participate in work and service activities which provide contacts with other aspects of society and in using skills and exercising judgment and responsibility in a variety of settings outside the university community; the importance of allowing full play and scope to the creative abilities and intellectual curiosity of students through opportunities to pursue independent study and investigation; the importance of recognizing the educational interests of students geared toward specific professions and careers as students seek to adjust to changing labor market conditions; and, lastly, preparing students for graduate and professional training beyond the baccalaureate.

Accreditation

The University of New Haven is fully accredited as a general purpose institution by the New England Association of Schools and Colleges.

Representative memberships in which the university is an active participant include the Council of Graduate Schools, the Northeastern Association of Graduate Schools, the New England Association of Graduate Schools, the Assembly of the American Association of Collegiate Schools of Business, the College Entrance Examining Board,

the American Society of Engineering Education, the Educational Testing Service, American Council on Education, American Association for Higher Education, Association of Urban Universities, Council for the Advancement of Small Colleges, and the National Commission on Accrediting. The Engineers' Council for Professional Development has accredited the undergraduate mechanical, industrial, civil, and electrical engineering programs.

Affirmative Action

The University of New Haven is committed to a policy which provides for equality of opportunity in employment, advancement, admission and educational opportunity to all persons on the basis of individual merit.

An Affirmative Action Review Board meets regularly to evaluate university policy and practice relevant to affirmative action.

TITLE IX

Title IX of the Education Amendments of 1972 states that, "no person in the United States shall on the basis of sex ... be subject to discrimination under any educational program ... receiving Federal financial assistance." Compliance with this act is administered through the Title IX Coordinator, and questions regarding Title IX's applicability to the university should be addressed to the Coordinator. A grievance procedure for student and employee complaints of discrimination is available.

Schools of the University

Students at the University of New Haven may elect majors in one of four schools, the School of Arts and Sciences, the School of Business Administration which includes the Division of Criminal Justice, the School of Engineering and the School of Professional Studies and Continuing Education which includes the Division of Evening Studies. Graduate programs are offered through the Graduate School. All schools within the university are coeducational.

Arts and Sciences

The School of Arts and Sciences offers programs leading to the associate in science degree, the bachelor of arts degree and the bachelor of science degree. Through the Graduate School, the School of Arts and Sciences offers programs leading to the master of arts degree, the master of science degree, and the senior professional certificate.

Associate in Science degree programs are offered in 10 fields: biology, chemistry, environmental studies, fashion design, fire and occupational safety, general studies, graphic and advertising design, interior design and journalism.

Bachelor of Arts degree programs are offered in 18 fields: art, biology, chemistry, communication, economics, English, fashion design, graphic and advertising design, history, interior design, mathematics, philosophy, physics, political science, psychology, social welfare, sociology and world music.

Bachelor of Science degree programs are offered in six fields: biology, chemistry, environmental studies, fire science administration, fire science technology and physics.

Detailed information on these undergraduate programs is available in the Undergraduate Bulletin.

Master of Arts degree programs are offered in four fields: community psychology, gerontology, humanities and organizational/industrial psychology.

The Master of Science degree is offered in environmental sciences.

The Senior Professional Certificate is offered in applications of psychology.

Detailed information on these graduate programs is available in the Graduate Bulletin.

School of Business Administration

The School of Business Administration offers programs leading to the associate in science degree and the bachelor of science. Through the Graduate School, the School of Business Administration offers programs leading to the master of science degree, the master of business administration degree, the master of public adminstration degree, the executive master of business administration and the senior professional certificate.

Associate in Science degree programs are offered in four fields: business administration, communication, hotel management, tourism and travel, and retailing.

Bachelor of Science degree programs are offered in 20 fields: business administration, business data processing, business economics, business science — biology, business science — chemistry, business science — physical science, business science — physics, communication, finance, financial accounting, hotel management, tourism and

travel, institutional food service adminstration, international business, management science, managerial accounting, marketing, operations management, personnel management, and public administration and retailing.

Detailed information on these undergraduate programs is available in the Undergraduate Bulletin.

Master of Science degree programs are offered in three fields: accounting, industrial relations and taxation.

The master of business administration degree, the executive master of business administration degree and the master of public administration degree are also offered.

The Senior Professional Certificate is offered in accounting and taxation, economic forecasting, finance, general management, international business, marketing and public management and quantitative analysis.

Detailed information on these graduate programs is available in the Graduate Bulletin.

CRIMINAL JUSTICE

The Division of Criminal Justice within the School of Business Administration offers programs leading to the Associate in Science degree and the Bachelor of Science degree. Through the Graduate School, the Division of Criminal Justice offers programs leading to the Master of Science degree.

Associate in Science degree programs are offered in two fields: criminal justice — administration and criminal justice — corrections.

Bachelor of Science degree programs are offered in three fields: criminal justice — administration, criminal justice — corrections and criminal justice — forensic science.

Detailed information on these undergraduate programs is available in the Undergraduate Bulletin.

Master of Science degree programs are offered in two fields: criminal justice and forensic science.

Detailed information on these graduate programs is available in the Graduate Bulletin.

Engineering

The School of Engineering offers programs leading to the associate science degree and the bachelor of science degree. Through the Graduate School, the School of Engineering offers programs leading to the master of science degree and the senior professional certificate.

The Associate in Science degree program is offered in engineering.

The Bachelor of Science degree programs are offered in six fields: computer technology, electrical engineering, mechanical engineering, industrial engineering, materials engineering and civil engineering.

Detailed information on these undergraduate programs is available in the Undergraduate Bulletin.

The Master of Science degree programs are offered in seven fields: computer and information science, electrical engineering, environmental engineering, industrial engineering, operations research, mechanical engineering, MBA/MSIE.

The Senior Professional Certificate is offered in computer and information systems.

Detailed information on these graduate programs is available in the Graduate Bulletin.

Professional Studies and Continuing Education

The School of Professional Studies and Continuing Education offers programs leading to the associate in science degree and bachelor of science degree as well as part-time credit and noncredit courses both on and off campus. The school has eight distinct units: the Division of Evening Studies, which offers a wide variety of undergraduate credit programs; professional studies, which offers full-time degree programs in aeronautical technology, occupational safety and health and packaging and package handling; the summer school, which offers undergraduate courses in two, five-week terms to students wishing to accelerate their academic careers or to make up courses uncompleted during the previous year; the off-campus program offered at various locations throughout the state; Intersession, which offers credit courses during the period between the fall and spring semesters; the Division of Special Studies, which offers a variety of noncredit, certificate courses in both specialized and general areas of study; the Management Center, which provides specialized training to managers and administrators in business and industry; and the Division of Continuing Education, which offers noncredit, intensive seminars, workshops and institutes.

Complete information about the individual units may be found in the Undergraduate Bulletin.

Graduate School

General Information

The Graduate School academic year is conducted on a trimester system. Most classes meet once each week in the late afternoon and early evening for thirteen consecutive weeks. A small proportion of the classes are scheduled on Saturday morning. Other classes meet on a swing shift schedule, where professors meet the same class at both morning and evening hours on the same day to accommodate police officers, fire fighters or other students who work a rotating shift.

The Fall trimester begins in September and ends in December; the Winter trimester begins in January and ends the first week of April; the Spring trimester begins the second week in April and ends in July.

The Graduate School Summer session runs for six and one-half weeks from mid-July to late August. Classes generally meet twice a week. Independent study is possible in some cases, subject to the approval of the program coordinator. Occasionally intensive seminars and courses of a shorter duration are offered during the summer months. Refer to the summer session brochure for details.

Full-Time Study

Though most graduate students at the university study on a part-time basis, it is possible to do full-time work in the Graduate School. At the University of New Haven, the following 12 graduate programs permit full-time study; any program not listed here would be difficult or impossible to study as a full-time student: business administration, public administration, accounting, criminal justice, industrial engineering, computer and information science, forensic science, operations research, community psychology, organizational/industrial psychology, the dual degree, Master of Business Administration/Master of Science in Industrial Engineering and mechanical engineering.

Admission

General Requirements

Applicants to the University of New Haven Graduate School are required to have an undergraduate degree from an accredited institu-

tion. Certain programs have additional requirements for admission to specific curricula, details of which are included in the program listings later in the bulletin.

Admission decisions are based primarily on an applicant's undergraduate record. Prospective students who are currently completing their undergraduate study should submit an official transcript complete to the date of application. In most cases, an admission decision will be made on the basis of the partial transcript, contingent upon completion of the baccalaureate degree. Registration will not be permitted until a final, official transcript is submitted to the registrar.

In support of an application, students may submit their scores from the Graduate Record Examination, both the Aptitude Test and the Advanced Test, the Graduate Management Admission Test or the Miller Analogies Test. Students may be required to take one or more of these tests.

Procedure

An applicant for admission to the Graduate School must submit a formal application, two letters of recommendation, complete official transcripts of all previous college work and the nonrefundable application fee.

Students may be admitted for any trimester. Should a student be unable to enter the Graduate School during the trimester for which the admission is granted, the acceptance will remain open for one calendar year. After one year, a new application for admission will be required.

Admission Categories

Applicants and students in the Graduate School are assigned to one of three categories.

FULLY MATRICULATED

Students accepted for entrance into a regular degree program are fully matriculated students.

PROVISIONAL

When there is doubt concerning a student's ability to handle satisfactorily the graduate program for which he is applying, the student may be accepted on a provisional basis. Students accepted provisionally should seek out the advice of their coordinator or adviser so that their graduate work can be closely supervised. A matriculation decision must be made after the provisional student has completed twelve credits' work, and may be made sooner if the coordinator so desires. A pro-

visional student may take no more than six hours' work at one time, except with written permission of the coordinator of the program or the dean of the Graduate School.

SPECIAL

Special Student status is reserved for students who do not wish to matriculate in a program. Registration is limited to 12 credit hours of graduate work. Should the student desire to continue graduate work, he or she must be accepted into a specific graduate program. Special Students are responsible for seeing to it that prerequisite requirements for the courses they wish to take are met.

In-Process Registration

Students who apply after the application deadline and prior to new student registration may be accepted on an "in-process" basis and may do no more than six credits' work unless they have written approval of the coordinator of the program they wish to enter.

It is the responsibility of the in-process student to see to it that all materials in support of the application are received by the university in time for a matriculation decision before the next trimester. The in-process student should request a review of the application after ascertaining from the registrar that all materials have been received. An in-process student will not be permitted to register a second time until a matriculation decision has been made. Acceptance as an in-process student does not guarantee admission to the Graduate School.

Auditors

An auditor is allowed to attend class and is expected to participate in class discussions and complete the required assignments. An auditor receives no grade or credit toward any degree. Auditor status does not imply admission to any of the graduate degree programs. There is a special "Application for Study as an Auditor" form available in the Graduate Office. Both registered students and non-students are eligible to audit University of New Haven Graduate School courses.

Admission of Foreign Students

Qualified foreign students are welcome as students in the Graduate School of the University of New Haven and will receive every possible consideration for admission.

U.S. immigration regulations require that students holding a student visa maintain adequate progress. Adequate progress means full-time study, which is generally interpreted to mean taking at least three courses each trimester. Prospective foreign students should, therefore, note that not all graduate programs are designed to permit full-time study. A complete listing of such programs is provided elsewhere in this bulletin.

The major criterion for the admission of foreign students is the same as that used for citizens of the United States: Does the undergraduate preparation of the student qualify him or her for graduate study in a degree program at the University of New Haven? Since institutions and systems of higher education vary from country to country, the foreign applicant may expect that he or she will be asked to provide substantiation, not only of the courses taken and grades received, but also of the academic reputation of the undergraduate school within the educational system of the particular country. All transcripts must be provided in English.

In addition, the Graduate School requires that the applicant submit evidence of English proficiency. The TOEFL examination is recommended, but if undergraduate work has been completed in English or if arrangements for the TOEFL are difficult, the GRE or GMAT examinations may be substituted for the TOEFL. The Graduate School may also require that evidence of English proficiency be ascertained by an overseas interview, any charge for which must be borne by the prospective student.

Every foreign applicant will be evaluated carefully regarding undergraduate subject matter mastery and English proficiency. A student whose examination score falls below acceptable standards for English proficiency (which in the case of the TOEFL examination is 600) or whose undergraduate work does not provide necessary preparation for the particular program of study chosen in the Graduate School, may be admitted subject to the requirement that the course of study at the University of New Haven include intensive work in English and undergraduate courses, for which no graduate credit will be given.

Foreign students will need to provide a signed financial resource statement prior to the issuance of an I-20, since the university must certify that it has checked the foreign student's finances. The University of New Haven does not offer financial assistance to foreign students. A $200 deposit is required before an I-20 will be issued. This deposit will be applied toward the first trimester's tuition.

Since the review of applications from foreign students takes much longer than those from citizens of the United States, it is important that applications and all supporting materials be received by the Graduate School well before the stated deadline in the academic calendar.

Upon acceptance students are invited to contact the Director of Housing for assistance in locating living accommodations.

Graduate students studying under an F-1 visa are allowed 24 months to complete a degree program. All F-1 visa students must register for a minimum of 9 credit hours per trimester. Once visa

students have completed their degree program the Foreign Student Office will not issue and I-538 for extension of temporary stay, except for periods of practical training approved by the Graduate School and the U.S. Office of Immigration.

Living Costs

Estimated costs for attending the University of New Haven Graduate School for the 1977-78 academic year are as follows.

SINGLE STUDENT	*6 Credits*	*9 Credits*	*12 Credits*
Base Living Costs	$1,400.	$1,400.	$1,400.
Tuition and Fees	456.	681.	906.
Books and Materials (Approximate)	54.	80.	108.
Cost Per Trimester	$1,910.	$2,161.	$2,414.
Cost Per Year (10 months)	$5,693.	$6,429.	$7,170.
MARRIED—NO CHILDREN			
Basic Living Costs	$1,956.	$1,956.	$1,956.
Tuition and Fees	456.	681.	906.
Books and Materials (Approximate)	54.	80.	108.
Cost Per Trimester	$2,466.	$2,717.	$2,970.
Cost Per Year (10 months)	$7,362.	$8,097.	$8,838.

Additional costs per trimester:	
One child	$ 530.
Two children	925.
Three children	1,548.
Additional costs for summer:	
Single	$ 840.
Married	1,173.
Per child	150.

NOTE: Living costs are based on Estimated BLS Moderate Consumption Budget Standards (20-35 age group) adjusted to December, 1976.

Source: GAPSFAS News and Notes, Vol. V, No. 1, November 1976.

Registration

Registration deadlines are listed in the graduate calendar and in the class schedules that are published each trimester.

Any student who fails to register for two consecutive trimesters will no longer receive registration materials. It will be the responsibility of the student to notify Graduate Records of the desire to continue graduate study.

No registrations or add slips for a course will be accepted after the first week of any trimester. A student may withdraw from a course any time prior to the last scheduled class meeting. Course additions or withdrawals may be handled in person or by mail.

The university reserves the right to change class schedules or instructors at any time. It further reserves the right to cancel any course, and, in such cases, will refund full tuition to the students.

Students with an outstanding balance will not be permitted to register. Current students who register after the registration deadline will be assessed a late registration fee.

Academic Policies

Academic Counseling

Students may request academic counseling at any time. Appointments should be scheduled through department chairman or program coordinators.

It is the student's responsibility to select courses in accordance with prerequisites, the adviser's recommendations, the departmental plan of study (if required) and the requirements for the degree.

A student is not required to file a formal plan of study with the Graduate School. It is the student's responsibility to meet the stated requirements for the degree.

Awarding of Degrees

The University of New Haven awards degrees twice a year, at commencements in January and in June.

Students completing the requirements for a degree at the end of the fall trimester will receive the degree in January. Students completing the requirements for a degree at the end of the winter trimester will receive the degree at the June commencement. Students completing the requirements for a degree at the end of the spring trimester will receive the degree the following January. Students completing the requirements for a degree in July will receive a formal statement that they have completed all requirements for the degree and will

formally be awarded their diploma in January.

Candidates for January Commencement must file a petition with Graduate Records no later than October 14, and for June Commencement no later than March 1. Forms for this purpose are available in the Graduate School Office and in the Office of the Registrar. Upon submission of this petition, the Registrar will review the candidate's record and certify that he/she has met the requirements for the degree. Payment of the graduation fee must accompany the petition. Should a candidate not fulfill all the requirement for graduation before the deadline after having filed the petition to graduate and paid the fee, the student will have to petition again at a later date. At that time, only the refiling fee will be charged. All financial obligations to the university must be met prior to graduation.

Grading System

The Graduate School uses the following grading system:

A —Superior performance
B —Good performance
C —Passing performance
F —Failure
P —Pass-carries credit hours toward the degree
S —Satisfactory performance in a noncredit course
W —Withdrawal from a course
I —Incomplete-given on rare occasions. A grade of I that is not changed within one calendar year automatically reverts to a W.
T —Used for thesis/seminar project students who have not completed work during the trimester in which they originally registered for the course. Students must complete their work within the maximum allowable time for graduate work.

Grade Reports

Reports of the final grade in each subject will be mailed to the student soon after the close of each term.

Academic Standards

The academic standing of each student is determined on the basis of the quality point ratio earned each trimester.

To determine a quality point, each letter grade earned during a trimester is assigned a quality point value:

A —Four quality points
B —Three quality points

C —Two quality points
F —Zero quality points
P —Zero quality points
S —Zero quality points
U —Zero quality points
W —Zero quality points
I —Zero quality points
T —Zero quality points

The quality point ratio is obtained by multiplying the quality point value of each grade by the number of semester hours assigned to each course in the bulletin, then dividing the total quality points carried by the total semester hours attempted.

A cumulative quality point ratio is obtained by calculating the quality point ratio for all courses attempted at the University of New Haven.

Repetition of Work

A student may repeat a course, with the new grade superseding the old grade in the computation of the quality point ratio. The original grade remains on the transcript.

Probation and Appeals

Any graduate student whose cumulative quality point ratio (QPR) is below 3.0, a B average, will be considered to be on academic probation, and will be required to obtain permission from the program coordinator before registering for additional course work. A student whose cumulative QPR is below 2.7 after completion of 24 credits will be required to withdraw from the Graduate School.

Appeals concerning directed withdrawal from the graduate school under these circumstances should be directed to the dean of the Graduate School, who will in turn refer the appeal to the department chairman and/or the responsible administrative unit.

Transfer Credit

Transfer credit may be given for graduate courses taken at other accredited institutions subject to the following conditions:

a. the courses were at the graduate level;
b. each grade was B or better; and
c. the courses did not fulfill requirements for any other degree already earned by the student.

Waiver of Courses

Certain required courses in each program may be waived on the basis of undergraduate courses taken at accredited institutions. For a course to be waived, a student must first secure the written approval of the department chairman or a faculty member acting for the department chairman in the department in which the waiver is requested. Only fully matriculated students may seek waivers.

Thesis

A number of preliminary steps are required before registration for thesis will be accepted by the Graduate Registrar. The student completes the form *Proposal for Research Projects, Theses, Seminar Projects, or Independent Studies* in which the proposed subject, the methodology and the hypothesis are described. The student secures the approval signature of a faculty member who will serve as adviser. The student must also secure the approval of the proposed thesis and the thesis adviser by the program coordinator. Only after the Graduate Registrar has received the signed proposal form will the student be permitted to register for thesis.

A thesis will carry no fewer than six academic credits taken over no fewer than two academic terms. A preliminary draft must be presented to the adviser at least 45 days prior to commencement. Upon approval by the adviser and program coordinator, two final, unbound copies are presented to the Graduate School at least three weeks before commencement. After the Dean of the Graduate School approves the thesis, credit is awarded and the thesis is deposited in the university library for binding and becomes part of the permanent collection. Additional copies may be required by the adviser or the program coordinator.

For guidance in the preparation of theses, graduate students should consult *A Manual for the Preparation of Graduate Thesis and Technical Projects*, copies of which are available in the Graduate School Office. Questions not resolved by the instructions should be settled in consultation with the adviser and by reference to a standard style manual. The Graduate School participates in the University Microfilm Masters Program, and outstanding theses will be awarded this recognition upon the recommendation of the adviser, the program coordinator, or both.

Research Projects, Seminar Projects, and Independent Study

Some departments and academic programs require the completion of research projects, seminar projects, or independent study rather

than theses. In these cases, as with a thesis, students must have the written approval of their advisers and department chairmen prior to enrolling. This is accomplished by completing the form *Proposal for Research Projects, Theses, Seminar Projects, or Independent Studies* and securing required approvals.

Students preparing a research project, seminar project, or independent study should follow the guidelines presented in the *Manual for the Preparation of Graduate Thesis and Seminar Projects*, copies of which are available in the office of the Graduate School.

Time Limit for Completion of Degree Requirements

Students must complete all the requirements for their degree within five years of the date of their initial matriculation in the program. Any extension of the time limit can be granted only by the Dean of the Graduate School after consultation with the appropriate program coordinator.

Residency Requirements

Degree programs have a 30-graduate-credit residency requirement, with the exception of the M.B.A./M.S.I.E. Dual Degree program, which has a 60-graduate-credit residency requirement. Credits toward the residency requirement may be earned at the main campus or at the off-campus centers.

Graduate School Ethics

It is Graduate School policy that each student is expected to complete all course requirements on his own initiative and endeavor, with no collaboration unless specifically authorized by an instructor. In addition, material used by a student but authored by another individual, publisher, company, government or organization shall be identified as such by appropriate footnotes or references. Violations of this policy, either in fact or in spirit, will normally be handled by the instructor involved though they may be grounds for dismissal from the Graduate School. Students wishing to appeal the decision of an instructor should contact the Graduate School.

Tuition and Fees

The following are the tuition, fees and charges which were in effect during the 1977-1978 school year. The university reserves the right, at any time, to make whatever changes may be deemed necessary in admission requirements, fees, charges, tuition, regulations and academic programs prior to the start of any class, term semester, trimester or session.

NONREFUNDABLE FEES

Application fee	$15.
Auditor application fee	5.
Graduate Student Council fee, per trimester	1.
Graduation fee	35.
Laboratory fee	20.
Refiling fee	15.
Late payment fee	10.
Late registration fee, current students	15.
Registration fee, per trimester	5.
Senior Professional Certificate fee	10.
Transcript fee, first copy	free
Additional copies	1.

OTHER FEES

Auditor, per course	$145.
Computer use fee	20.
Executive M.B.A. program, total cost	5,000.
Noncredit course fee, per course	145.
Tuition, per credit hour	75.

Payment

Tuition for graduate courses is due at registration. However, the university permits graduate students to pay tuition on an installment basis, paying one half with the registration form and the balance before the first day of the trimester. All students who have not completed tuition payments by the first day of the trimester will be assessed the late payment fee.

Students are responsible for payment of tuition to the university, even though they may be eligible for their employer's tuition reimbursement plan. Students are responsible for making their own arrangements with their employers for reimbursement.

The university withholds the giving of grades, the award of diplomas, the issuance of transcripts and the granting of honorable

dismissal to any student whose account is in arrears.

The university accepts Master Charge and BankAmericard/VISA for payment of tuition.

Withdrawal

To be eligible for a refund of tuition, students must formally notify the registrar of their intention to withdraw by completing the university withdrawal form and submitting it to the registrar by mail or in person. The date of the postmark on mailed withdrawal forms, or the date of submission on those brought in person, determines the amount of the refund, if any, due the student.

Refunds

The refund policy for graduate students who withdraw from any course or from any program is as follows: 80% refund of tuition upon formal withdrawal prior to the second regularly scheduled class meeting, 60% refund of tuition upon formal withdrawal prior to the third regularly scheduled class meeting, 40% refund of tuition upon formal withdrawal prior to the forth regularly scheduled class meeting, 20% refund of tuition upon formal withdrawal prior to the fifth regularly scheduled class meeting. No refund will be made after the fifth regularly scheduled class meeting.

Financial Support for Graduate Study

Financial support is available in the form of fellowships, grants-in-aid, assistantships, loans and work-study.

University fellowships are awarded to outstanding graduate students without regard for financial need and provide partial tuition support. Grants-in-aid provide partial tuition support and are based upon financial need.

Other financial aid awards have different restrictions and criteria for eligibility. Contact the Graduate School or the Office of Financial Aid for further information.

Assistantships provide apprentice-like opportunities for graduate students in research or other professional activity. Graduate assistants are named by the department and may work a maximum of twenty

hours a week, with the work schedule and maximum earnings determined by the requirements of the department involved and the financial aid office.

The state of Connecticut and other states have established loan programs offering long-term loans at low interest rates. In Connecticut, a student may borrow up to a maximum of $5,000 each school year. Repayment starts one year after graduation. If the family's adjusted income is less than $25,000 annually, federal interest benefits cover the full interest while in attendance and during the year following graduation.

Part-time employment is also available to graduate students under the college work-study program. The program enables students with financial need to work on- or off-campus for an average of fifteen hours a week.

Application and Eligibility

A GAPSFAS (Graduate and Professional School Financial Aid Service) application is required for all forms of support based upon need. GAPSFAS applications are available in the financial aid office and the Graduate School office, as are applications for fellowships.

GAPSFAS applications are mailed by the student directly to GAPSFAS for processing, after which GAPSFAS will forward the application to the university. Generally, GAPSFAS requires four weeks to process applications before forwarding to the school. Since the university must receive the processed application by the deadline date, approximately four weeks before the start of the trimester for which the student is seeking aid, students are encouraged to file financial applications early. A list of exact university deadlines is available from the financial aid office.

Foreign students are not eligible for financial assistance based upon need, since they must certify availability of sufficient funds at time of entry. Students on academic probation are not eligible for financial aid.

The Law Enforcement Assistance Program

The Omnibus Crime Control and Safe Street Act of 1968 established loan and grant programs awarded under LEEP. These awards are subject to current guidelines of the Department of Justice and the availability of funds.

Full information and applications for financial aid under LEEP can be obtained from the financial aid office.

LOANS

The Law Enforcement Student Loan Program makes available ten-year, interest-bearing (7%) notes of up to $2,200 per academic year to full-time students enrolled in undergraduate and graduate programs leading to degrees in areas directly related to law enforcement. These loans can be cancelled at the rate of 25% for each year of employment in a public, state, local or federal law enforcement agency.

GRANTS

Grants are available to full-time employees of a publicly funded law enforcement agency under the Law Enforcement Student Grant Program. Payments of up to $250 per trimester are provided to full- or part-time students working toward a degree in this field. A recipient must agree to remain with a law enforcement agency for two years after completion of studies funded by this grant.

Title XX Funds

All graduate students should be aware that they may be able to receive a waiver of tuition through Title XX. To receive this waiver, students must be full- or part-time paid employees of agencies receiving Title XX funding. At least 20% of students' professional responsibilities must involve face-to-face contact with clients of the agencies by which they are employed. All or part of the students' professional salaries must be paid from funds received by agencies under Title XX. Students must complete all forms normally required for admission.

Students who believe they qualify should contact the Title XX Officer or the Graduate School.

STUDENT ACTIVITIES AND OTHER SERVICES

Activities

Clubs and Organizations

There are almost 40 university student clubs and societies open to interested students. Included are student chapters of professional societies, religious organizations, social groups and special interest clubs.

Councils

Separate day, evening and graduate student councils have the responsibility for initiating, organizing and carrying through extracurricular activities and for liaison between students and the university staff.

The Graduate Student Council is a forum where graduate students can provide input to the administration in order to improve all aspects of graduate education at the university. The council schedules a number of extracurricular activities, and all graduate students are encouraged to attend.

Cultural Activities

There are student organizations formed around interests in literature, art, film and drama. These groups sponsor visiting artists and lecturers, publish materials and generally provide a well-rounded cultural program for University of New Haven students.

Fraternities and Sororities

National and local service, social and honorary fraternities and sororities are active on campus. They sponsor programs such as the semiannual bloodmobile and other services as well as social functions.

Publications

Student publications include *The News,* the university student newspaper; *The Chariot,* the annual yearbook; *The Noiseless Spider,* a literary publication; and the *Student Handbook.* Students may volunteer their services on any of the student publications.

WNHU Radio

WNHU, the university's student-operated FM stereo broadcast facility, operates throughout the year on a frequency of 88.7 MHz at a power of 1,700 watts. This extracurricular activity, open to all university students, whether undergraduate or graduate, serves southern Connecticut with the best in music, news and community affairs programming. Its sportscasters are the voice of University of New Haven Charger sports teams. The WNHU broadcast day consists of locally produced shows. However, selected Intercollegiate Broadcasting System and National Public Radio features are also presented.

In its first year, WNHU gained national attention when announcer Tony Salzo set a 270-hour world record for longest continuous broadcast. In 1974, WNHU again achieved national prominence by winning *Broadcast Management/Engineering* magazine's "Best Station Award."

All WNHU activities in programming, business and engineering operations are performed by students in the university's day, evening and graduate divisions. The station will train all qualified students in their respective areas of interest.

Social Activities

The social calendar is filled with varied events to appeal to all students: mixers, concerts, films, free parties to climax each semester, cabarets and Homecoming.

Student Center

The Student Center provides a focal point for all student activities. Offering lounges, student offices, a game room, a large cafeteria and a snack bar, the facility has been designed to serve as a center for the student's non-academic college interests.

The Rathskeller, also located in the Student Center, opens daily at 4 p.m. serving draft beer and snacks. Live entertainment is often presented in the Rathskeller on the weekends.

Services

Alumni

Membership in the Alumni Association is acquired immediately upon graduation. All degree graduates of the university as well as diploma graduates of the School of Executive Development and the Management Center become members automatically. Including the class of 1977, there are almost 10,000 members of the Alumni Association. A member of the administrative staff of the university conducts the affairs of the association during the period between meetings and also serves as a planning group. There is an alumni fund chairman for annual giving.

In addition to the semiannual meeting, other meetings of social and educational interest occur during the year, and a quarterly publication, the *Alumni News,* is mailed without charge to each alumnus. Alumni Homecoming is an annual event occurring in October each year.

The Alumni Association is represented on the Board of Governors by the member who is elected to the board for a term of two years. The president of the association serves on the Board of Governors as an ex-officio member.

Membership of the Alumni Advisory Board is by invitation. In addition to the officers of the Alumni Association, 20 or more additional graduates of the university constitute the group. The council is an advisory board to the university on the conduct of alumni affairs. Its primary objectives are to strengthen alumni relations, advise on matters of top-level policy involving the alumni, improve alumni communications

and assist in planning and conducting alumni events. The council meets quarterly at the university with the president and the director of Alumni Relations.

Athletics

Graduate students are encouraged to make use of the North Campus Athletic Complex. Facilities include three basketball courts, handball-paddleball court, weight room with universal gym, a multi-purpose exercise room, steam room, fully equipped training room, six tennis courts, two softball fields, baseball diamond and combination football-soccer-lacrosse field.

While graduate students are not eligible to participate in the undergraduate intercollegiate athletic program, they are eligible to take an active part in the intramural sports program administered by Physical Education Department Chairman Don Wynschenk. Intramural competition in touch football, badminton, bowling, three-and five-player basketball, paddleball, softball, tennis, floor hockey and volleyball are also sponsored.

A valid UNH ID card is required for entrance to the North Campus gym or tennis courts, during non class or free-time hours. In general, the gymnasium is open for graduate student use at times when regularly scheduled games and classes are not in progress. Students should take care to secure their locker or leave properly identified valuables with the equipment manager while using any facility.

Students who participate in intramurals or use any UNH athletic complex facility, are not covered by the university athletic insurance policy and participate at their own risk. The university recommends that an appropriate insurance policy be carried by each student to cover medical costs in case of injury.

During the school year, the gymnasium is open from 9 a.m. to 9:30 p.m. Monday through Friday with the hours 5 p.m. through 9:30 p.m. generally reserved for undergraduate and graduate student use. The gym is available from 1 p.m. to 5 p.m. on Saturday. The building is closed Sundays.

The tennis courts are open dawn to dusk during clement weather and are supervised during peak hours, limiting use to UNH students and personnel on a one-hour time limit basis.

The paddleball court must be reserved a day in advance by calling 934-6320 prior to 8:30 a.m. and 934-6321, Ext. 255, between 8:30 a.m. and 5 p.m.

It is hoped that graduate students will avail themselves of a full range of activities and that they will seek out athletic department and physical education department staff members to express interests in areas where further graduate student participation can be encouraged.

Bookstore

The university's bookstore provides all necessary texts, new and used, that are required for courses at the university. It also carries related supplies, greeting cards, imprinted clothing, gifts, candy and a selection of paperbacks, newspapers and periodicals. The bookstore buys back used texts on a daily basis throughout the year. It also orders class rings and handles film processing for the campus community.

Special arrangements are made for students taking courses at off-campus locations to purchase required books at or near off-campus centers.

Career Development and Off-Campus Employment Office

This office has two primary functions within the university: career advising and providing information about off-campus employment. It is located on the second floor of the Student Services and Admissions Building on the South Campus.

CAREER DEVELOPMENT

To assist students in making career choices, individual counseling is available and is supplemented by other resources. Special workshops on resume preparation, interviewing skills and job research techniques are scheduled in both the fall and spring semesters.

In addition, the office maintains an extensive library of career information resources on careers in general and specific employers.

OFF-CAMPUS EMPLOYMENT

While the office is not an employment service, listings of both full- and part-time positions are maintained to provide a common meeting ground for employers and prospective employees. Students will find this useful both in locating part-time employment while in school and full-time employment following graduation.

Employers wishing to list positions with the Off-Campus Employment Office need only call or write, giving a description of the position available and other details. There is never any fee charged for this service.

ON-CAMPUS RECRUITMENT

During each academic year, employer representatives visit the campus to interview graduating University of New Haven students, both graduate and undergraduate. In addition, representatives of a

number of graduate schools visit to interview seniors interested in pursuing graduate education.

Students at all stages of their education are urged to make use of the office's resources in formulating career plans. Alumni seeking positions are invited to use the services of the office.

NEWSLETTERS

The Career Development and Off-Campus Employment office publishes two newsletters on a regular basis. The *Student Affairs Newsletter* is published on the third Monday of the month during the undergraduate academic year. The newsletter contains information about events on campus and, particularly, events presented by the Career Development Office including workshops and recruitment visits.

The *Jobsletter* is published biweekly throughout the year except on university holidays and contains job listings received by the Off-Campus Employment Office. Both publications are distributed around the campus. The *Jobsletter* will be mailed to any member of the university community who wishes it and provides the office with a supply of stamped, self-addressed envelopes for the number of issues desired.

Chaplains

Chaplains of the major faiths represented in our student body are available for religious counseling and for presiding at special occasions.

Computer Facilities

The university Computer Center provides time-sharing and batch processing of jobs for both academic and administrative functions at the university.

The center maintains two independent yet totally compatible processing units each with 64K of core memory. One system is dedicated solely to academic usage with single batch capability and a capacity for 16 remote terminals for interactive use, where users can type in information and receive immediate response. The peripherals attached to the central processing unit are two 40-megabyte on-line disk drives, one magnetic tape drive, one 1000-card-per-minute reader, one 600 line-per-minute printer, one 100 card-per-minute punch unit, one graph plotter and one graphics display unit, a stand-alone minicomputer which is switchable to a terminal port on the main computer.

The system dedicated to administrative functions has dual batch capabilities and allows an additional 16 terminal port accesses. The peripherals attached to the central processing unit are six disk drives, each with 150 megabytes of on-line storage, two magnetic tape drives, two 1000-card-per-minute readers, two 600-line-per-minute printers, one 400-card-per-minute punch unit and one paper tape reader.

A major portion of data entry is made via remote terminal entry from various campus centers including admissions, the registrar's office, the scheduling office and others. Terminal access is divided into stationary hard-wired and portable dial-up types. Terminals are both hard-copy and cathode-ray tube.

Both systems are under control of the operating system, CYTOS II with spooling. Because of the hardware & software redundancy between the administrative and academic systems, users are assured of almost perfect back-up under most circumstances. Although batch processing is available to the academic community during all class hours from morning to evening, the system is up & running at all times for portable terminal usage. Typically, 12 terminal ports are available to each segment during the day and 24 during the evening to morning hours.

Students have the opportunity to learn such languages as FORTRAN IV, COBOL, PL/1, RPG-II, APL, BASIC, IBM-1130 Assembler, IBM-360/370 BAL, and others. The Computer Center offers a variety of engineering packages including stress analysis, electrical engineering circuitry analysis, mechanical engineering design programs and others. Statistical programs, plotter & graphics design programs and simulation programs are a part of many course offerings. Training in the usage, programming and debugging of programs on interactive terminals is stressed.

More than 85 percent of the center's computer time available is given to academic service, which provides active training to more than 700 students each semester.

The Computer Center is staffed by degree-holding computer professionals, with student assistants as operators for the academic system. These student operators have demonstrated an ability and interest in the computer field, and their service at the center qualifies as on-the-job experience when applying for jobs upon graduation.

The electrical engineering laboratory facilities include a Digital Corporation PDP-11/10D Minicomputer system. This system incorporates both disk and cassette drives and has teletype input-output as well as a graphics display terminal. Although primarily intended for use in electrical engineering courses, arrangements may be made for other students to work with this system.

Counseling

Individual counseling is offered to students for personal problems, for marital and domestic problems and for study and career choice problems. Students can obtain assistance for educational, vocational and general life problems.

A student who does not know where to go for help should contact the Counseling Center for information and direction.

TESTING

The Counseling Center of the University of New Haven offers psychological testing including vocational interest, personality assessment and academic placement. Students who are unsure of their academic skills, eventual career choices or life goals may request help in these areas.

Foreign Students

The university is fortunate in having many countries represented in its student body. The Foreign Student Office provides special guidance when needed. The International Students Club at the university sponsors many activities and trips. In addition, the International Center of New Haven, located near the Yale campus, welcomes all foreign students to the many programs they sponsor and to full use of their facilities.

Handicapped Services

The Office of Handicapped Services provides guidance and assistance to students with physical handicaps. The office also coordinates the university's compliance with section 504 of the H.E.W. Rehabilitation Act of 1973. All inquiries and problems concerning barrier-free access to university facilities should be addressed to this office.

Housing

The Housing office, located in the Student Center, will assist graduate students in finding off-campus housing accommodations. At the present time college owned housing for graduate students is not available. The office is open from 9:00-5:00, Monday through Friday, for any student wishing to find housing accommodations. The office has listings for apartments, houses and private rooms.

Library

The Marvin K. Peterson Library, named in honor of the former president of the university, was opened in 1974. It has a capacity of 300,000 bound volumes. Adjoining the Main Building, it includes special collection rooms, a music room, archives and spacious reading and reference areas. Study is made convenient by modern research

facilities and equipment including microreading stations and microform reader-printers.

The library contains more than 200,000 volumes, 53,000 U.S. government documents, 6,500 record albums, numerous corporate annual reports, pamphlet files and microfilm. The library subscribes to 1,000 periodicals and extensive back issue files are maintained.

The resources of both the New Haver. and West Haven public libraries are available to students (nonresidents must pay a fee). Under a reciprocal arrangement, University of New Haven students may borrow materials from the libraries of Albertus Magnus College or Quinnipiac College by presenting a valid identity card.

Minority Student Affairs

The director of Minority Affairs represents the needs and interests of minority students at the University of New Haven. The director works closely with minority students to ease the transition into the academic environment while enabling the student to maintain cultural pride and heritage. The director also promotes social and cultural activities which are of special interest to minority students.

The director of Minority Affairs works closely with the dean of students and the president in making decisions which affect minority students on campus.

Veterans Affairs

Since the university has one of the largest veteran enrollments in Connecticut, an Office of Veterans Affairs with a full-time staff is maintained. The Veterans Administration has assigned to the university a V. A. representative who maintains liaison directly with state and national V. A. offices. In addition to processing applications for various V. A. benefits, the campus Veterans Office provides a wide range of supportive services for veterans attending the university. Assistance is available in academic areas, and special help such as funding for tutorial assistance, readers for the blind and aid for the disabled is also available. The Organization for Veterans Affairs provides information about veterans' programs and activities on campus.

Women's Affairs

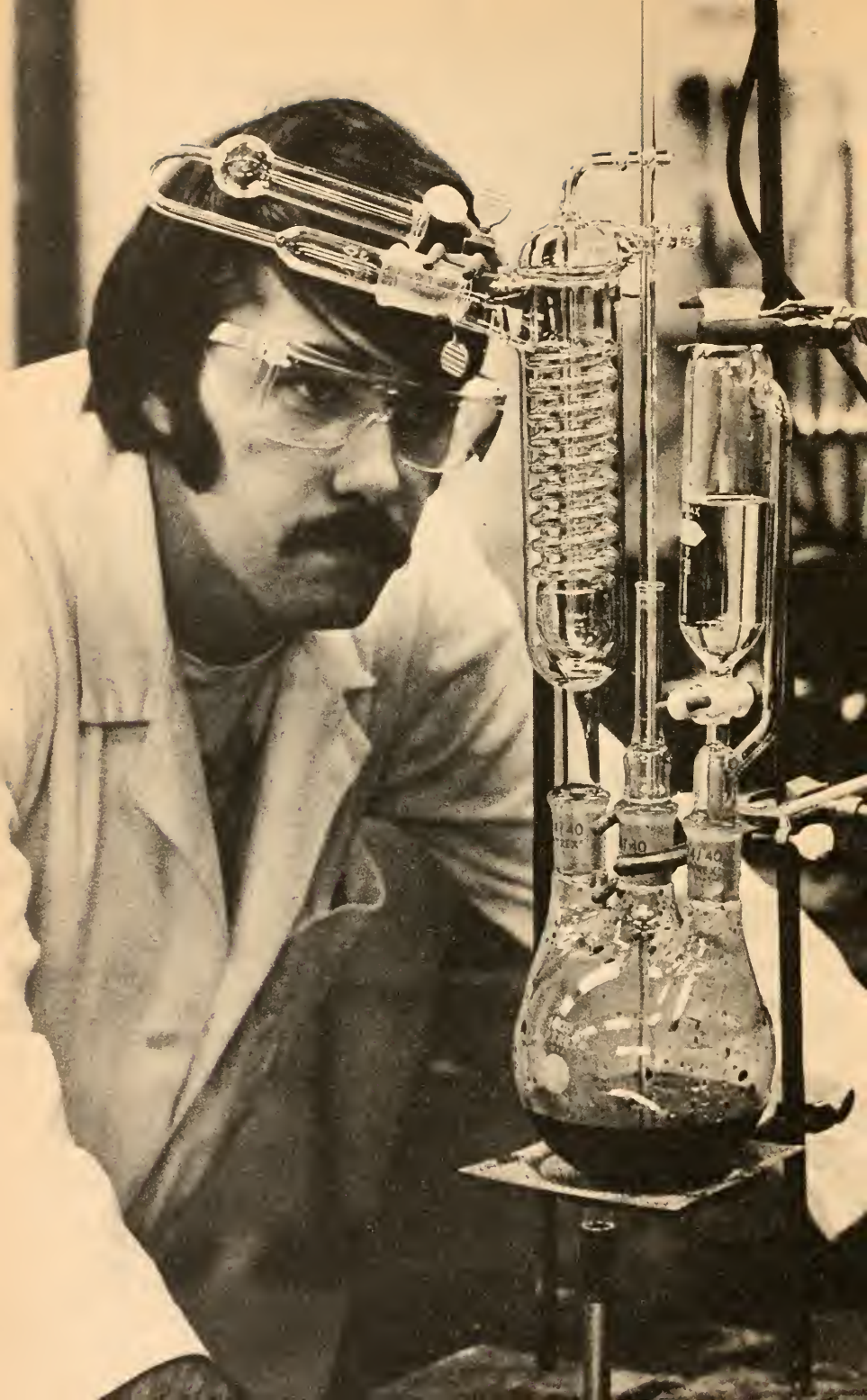
The director of Women's Affairs, with the help of interested students, coordinates a variety of non-academic programs of special interest to women. Among the programs which have originated through

the office are the Women's Health Center, Women's Studies course offerings and group meetings of returning adult women. Personal counseling is available at any time.

Cancellation of Classes

In the event it becomes necessary to cancel graduate classes for inclement weather or other reason, radio announcements will be broadcast beginning at approximately 1 p.m. on the following stations: **WADS,** 690 AM, Ansonia; **WATR,** 1320 AM, Waterbury; **WAVZ,** 1300 AM, New Haven; **WCDQ,** 1220 AM, Hamden; **WELI,** 960 AM, New Haven; **WFIF,** 1500 AM, Milford; **WHCN,** 105.9 FM, Hartford; **WICC,** 600 AM, Bridgeport; **WINE,** 940 AM, 95.1 FM, Brookfield; **WIOF,** 104.1 FM, Waterbury; **WKCI,** 101.3, Hamden; **WLAD,** 800 AM, 98.3 FM, Danbury; **WLIS,** 1420 AM, Old Saybrook; **WNAB,** 1450 AM Bridgeport; **WNHC,** 1340 AM, New Haven; **WNHU,** 88.7 FM, West Haven; **WNLC,** 1510 AM, New London; **WPLR,** 99.1 FM, New Haven; **WPOP,** 1410 AM, Hartford; **WQQW,** 1590 AM, Waterbury; **WSUB,** 980 AM, Groton; **WTIC,** 1080 AM, Hartford; **WTYD,** 100.9 FM, New London; **WWCO,** 1240 AM, Waterbury; and **WWYZ,** 92.5 FM, Waterbury.

An announcement of the cancellation of undergraduate day classes does not apply to graduate classes unless the announcement states the university has been closed. The cancellation of graduate classes will be announced independently.



ACADEMIC PROGRAMS

Accounting
Business Administration
  Hotel Management option
Business Administration/Industrial Engineering dual degree
Community Psychology
Computer and Information Science
Criminal Justice
Electrical Engineering
Environmental Engineering
Environmental Sciences
Executive M.B.A.
Forensic Science
Gerontology
Humanities
Industrial Engineering
Industrial Relations
Mechanical Engineering
Operations Research
Organizational/Industrial Psychology
Public Administration
Senior Professional Certificates
Taxation

Accounting

Coordinator: Jeffrey L. Williams, C.P.A., C.M.A.; M.B.A., University of Bridgeport

The overall objective of the Master of Science in accounting program is to provide a framework for accounting inquiry, devised in structure and content from the entire scope and process of accounting-information-based economic decision-making. The existence of such a framework is intended to provide for graduate accountants and professional practitioners an opportunity to share in the development and assessment of issues of accounting interest within a decision-making context. Accordingly, the M.S. program is structured to receive its objective and direction from the overall objective of accounting–providing information useful to the process of economic decision-making.

To accomplish this objective, the M.S. program offers a structure of studies designed to provide:

1. an examination of the foundations of economic decision-making (foundation courses, 18 courses);
2. an analysis of the role and usefulness of accounting information for economic decision making (core courses, 15 credits); and
3. an opportunity for further selected specialization from the generally recognized branches or divisions of accounting inquiry (electives, 9 credits).

Each student, upon entering the program, will be assigned a faculty adviser who will assist the student throughout his program of study, particularly with the selection of suitable electives. The assigned faculty adviser will also act as, or assist in the selection of, the student's thesis adviser.

ADMISSION POLICY

Admission to the program is open to persons holding an undergraduate degree from an accredited institution, preferably, but not exclusively, in accounting or in business administration with a major in accounting. Persons holding other than the above degrees will be required to take a number of selected undergraduate courses. Admission is based primarily on an applicant's undergraduate record; however, the promise of academic success is the essential factor for admission. In support of their applications, persons may submit their scores from the Admission Test for Graduate Study in Business. An applicant may be required to take this test.

Requirements for the degree Master of Science in accounting

A minimum total of 42 credits will be required to earn the Master of Science in accounting. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

THESIS

All students are required to write a thesis. The thesis must show ability to organize material in a clear and original manner and present well-reasoned conclusions.

The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the trimester in which the candidate expects to complete the requirements for the degree. Thesis preparation and submission must comply with the Graduate School policy on Thesis detailed elsewhere in this bulletin.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
Foundation Courses		
EC 604	Macroeconomic Analysis	3
EC 603	Microeconomic Analysis	3
FI 651	Portfolio Management and Capital Market Analysis	3
FI 615	Finance	3
MG 637	Management	3
QA 604	Probability and Statistics	3
		18
Core Courses		
A 650	Advanced Accounting Theory	3
A 621	Managerial Accounting	3
A 654	Financial Statements: Reporting and Analysis	3
A 698	Thesis	6
		15
	Electives	9
	Total	42

ELECTIVE COURSES

Financial Accounting specialization

A	651	Financial Accounting Seminar
A	652	Advanced Auditing
A	653	Accounting for the Not-for-Profit Organizations
A	656	International Accounting
FI	649	Security Analysis

Managerial Accounting specialization

A	661	Managerial Accounting Seminar
A	641	Accounting Information Systems
A	642	Operational Auditing
FI	645	Corporate Financial Theory

Taxation Specialization

A	604	Corporate Income Taxation I
A	605	Corporate Income Taxation II
One		Taxation Elective

Business Administration

Coordinator: Ronald N. Wentworth, M.S.I.E.,
University of Massachusetts

The general purpose of the M.B.A. program at the University of New Haven is the education of men and women at the graduate level for careers in business administration as well as other job areas requiring a sound grasp of business principles. The overall objective of the program is to enhance the student's perspective of managerial skills.

The program has been designed to develop a professional point of view in managing an organization. It further develops the student's ability to utilize the newest analytical and quantitative techniques used in corporate decision making. The student is also exposed to an in-depth analysis of various theories of business and managerial behavior, emphasizing the business organization in relation to its internal and external environment.

Another important objective of the program is to afford the student an opportunity to develop special skills by concentrating in a given study area.

Requirements for the degree Master of Business Administration

A total of 48 credits, with or without a thesis, is required of candidates for the M.B.A. degree.

If maximum waiver credit is granted, a student must complete a minimum of 30 credit hours for the M.B.A. degree. The residence requirement is also 30 graduate credit hours. Undergraduate courses may not be counted in meeting the minimum 30 credits required for the M.B.A. degree.

Candidates for the M.B.A. degree are urged to write a thesis as part of the requirement for the degree. A thesis student has the opportunity to work with a faculty member on a mutually determined research project. Candidates who elect not to write a thesis must take two additional courses in place of a thesis.

Students in the M.B.A. program should be familar with the use of computers in solving problems. The use of a computer is required in a number of courses in the M.B.A. program. Students deficient in this area should register for IE 603C, Introduction to Digital Computers: COBOL. Students wishing to learn FORTRAN should register for IE 603F. However, a student will only be granted graduate credit for either IE 603C or IE 603F, not both.

A student must complete the basic core before taking advanced courses in the M.B.A. program. The basic core consists of EC 603, EC 604, QA 604 and QA 605.

WAIVER POLICY

Required courses in the M.B.A. program may be waived on the basis of undergraduate courses taken at accredited institutions. For a course to be waived, a student must first secure the written approval of the department chairman or a faculty member acting for the chairman of the department in which the course is offered.

A course that has been waived cannot be taken for elective credit.

THESIS

Students electing to write a thesis must register for thesis in the appropriate business department. The thesis must show ability to organize material in a clear and original manner and present well-reasoned conclusions.

The thesis is written under the direction of the faculty member in charge of the departmental thesis program or a faculty member with special competence in the subject manner covered by the thesis. The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the trimester in which the student expects to complete the requirements for the degree. Thesis preparation

and submission must comply with the Graduate School policy on Thesis/Seminar Project Requirements detailed elsewhere in this bulletin.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
EC 603	Microeconomic Analysis	3
EC 604	Macroeconomic Analysis	3
QA 604	Probability and Statistics	3
QA 605	Advanced Statistics	3
MK 609	Marketing	3
FI 615	Finance	3
MG 637	Management	3
P 619	Organizational Behavior	3
A 621	Managerial Accounting	3
EC 625	Industrial Relations	3
	Thesis*	6
	Electives	12
		48

* Candidates who elect not to write a thesis must take two additional business courses in place of thesis.

CONCENTRATIONS

Within the Master of Business Administration program, students are allowed to concentrate their studies in a specific area. There are several structured concentrations offered by various departments.

A concentration consists of four courses taken in one area. With the permission of the adviser, students may substitute other appropriate courses for those listed as part of a concentration.

Accounting

Adviser: Jeffrey L. Williams, Associate Professor of Accounting, C.P.A., C.M.A., M.B.A., University of Bridgeport

A	650	Advanced Accounting Theory
A	661	Managerial Accounting Seminar
		plus any two accounting or taxation electives

Computer and Information Science

Adviser: William S. Gere Jr., Associate Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University

four courses from the following:

IE	603	Introduction to Digital Computers
IE	604	Management Systems
IE	605	Advanced Business Programming
IE	606	Advanced Technical Programming
IE	610	Computer Systems Design
IE	614	Data Information Systems

Economic Forecasting

Adviser: John J. Teluk, Associate Professor of Economics, M.A., Free University of Munich

QA	607	Forecasting
EC	653	Econometrics
IE	603F	Introduction to Digital Computers: FORTRAN

and one of the following:

MG	633	Managerial Economics
IE	606	Advanced Technical Programming
EC	665	Urban and Regional Economic Development
EC	690	Research Project
MK	639	Marketing Research and Information Systems

Finance

Adviser: Jeffrey L. Williams

FI	651	Portfolio Management and Capital Market Analysis
FI	645	Corporate Financial Theory
FI	617	Financial Institutions and Capital Markets

and one of the following:

FI	649	Security Analysis
FI	655	Commodity Market Analysis
FI	661	Real Estate: Principles and Practices
FI	619	Monetary and Central Banking Policy

Hotel Management

Adviser: John R. Coleman, Associate Professor of Public Administration; Ph.D., University of Massachusetts

four courses from the following:

HM	610	Seminar in Hotel/Restaurant/Institutional Food Service Administration

HM 625	Supervisory Analysis
HM 630	Personnel and Labor Relations in the Hospitality Field
HM 640	Executive Cuisine Development
HM 655	Development of Hotel/Restaurant/Institutional Food Services

International Business

Adviser: Gene Brady, Associate Professor of Marketing; Ph.D., University of Oregon

four courses from the following:

IB 643	International Business Operations
MG 660	Comparative Management
IB 651	Comparative Marketing
IB 652	Multinational Business Operations
IB 644	Import and Export Business
EC 641	International Economics

Management and Organization

Adviser: Wilfred Harricharan, Professor of Management Science, Ph.D., Cornell University

four courses from the following:

MG 660	Comparative Management
MG 661	Development of Management Thought
MG 662	Organization Theory
MG 663	Leadership in Organizations
MG 664	Organizational Effectiveness
MG 669	Business Policy and Strategy
MG 680	Current Topics in Business Administration
MG 695	Readings in Management

Management Science

Adviser: Wilfred Harricharan

IE 601	Introduction to Operations Research/Management Science
IE 604	Management Systems
QA 606	Advanced Management Science
QA 607	Forecasting

Marketing

Adviser: Gene Brady

MK 639	Marketing Research and Information Systems
MK 641	Marketing Management

MK 643 Product Management
One other course in Marketing

Operations Research

Adviser: William S. Gere Jr.

IE 607 Probability Theory
IE 621 Linear Programming
IE 622 Queuing Theory
IE 686 Inventory Analysis

Hotel Management Option

Coordinator: John R. Coleman, Associate Professor of Public Administration, Ph.D., University of Massachusetts

This program, leading to the Master of Business Administation degree with the Hotel Management Option, requires extensive undergraduate training. The student is allowed to complete the required undergraduate core while satisfying the requirements for the M.B.A. The program consists of 36 graduate credit hours, in addition to the 30-36 undergraduate credit hours taken in Hotel Management. Anyone who holds an undergraduate degree in Hotel Management may not take this program.

THESIS

Students electing to write a thesis must submit an approved thesis proposal form prior to registration. The thesis must show ability to organize material in a clear and original manner and present well-reasoned conclusions.

The thesis is written under the direction of the faculty member in charge of the departmental thesis program or a faculty member with special competence in the subject matter covered by the thesis. The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the trimester in which the student expects to complete the requirements for the degree.

Thesis preparation and submission must comply with the Graduate School Policy on Thesis/Seminar Project Requirements detailed elsewhere in this bulletin.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
EC 603	Microeconomic Analysis	3
EC 604	Macroeconomic Analysis	3
QA 604	Probability and Statistics	3
MK 609	Marketing	3
FI 615	Finance	3
MG 637	Management	3
P 619	Organizational Behavior	3
A 621	Managerial Accounting	3
EC 625	Industrial Relations	3
HM 698	Thesis*	6
	Electives	6
		36

*Candidates who elect not to write a thesis must take two additional business courses in place of a thesis.

REQUIRED UNDERGRADUATE COURSES

Course Number and Title		*Credit*
HM 100	Introduction to the Hotel/Restaurant Business	3
HM 165	Principles of Tourism and Travel	3
HM 202	Volume Food Purchasing	3
HM 212	Laws of Inn-Keeping	3
HM 321	Hotel, Restaurant and Institutional Food Service Accounting and Auditing Procedures	3
HM 322	Marketing and Sales Promotion in Hotels, Restaurants and Institutional Food Services	3
HM 325	Food and Labor Cost Controls	3
HM 410	Hotel, Restaurant and Institutional Food Service Systems and Operations	3
HM 411	Food Service Equipment, Layout and Design	3
HM	Electives	9

Business Administration/ Industrial Engineering Dual degree program

Coordinator: William S. Gere Jr., Associate Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University.

The Graduate School has always encouraged interdisciplinary studies. To foster a broader expertise in the areas of business administration and industrial engineering, a student can now earn both the Master of Business Administration and the Master of Science in Industrial Engineering by successfully completing the Dual Degree Program. The program is intended for students with undergraduate engineering or technical degrees from ECPD accredited schools.

Requirements for the dual degree Master of Business Administration/ Master of Science in Industrial Engineering

The basic M.B.A./M.S.I.E. program consists of 72 credit hours. Up to 12 of these credit hours may be waived on the basis of undergraduate course work, leaving a minimum requirement of 60 credit hours. All waivers must be approved in writing by the appropriate department and are conditional upon subsequent academic performance.

Graduate credit may be transferred from other accredited institutions subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin. In all cases, the residence requirement for the two degrees shall be 60 credit hours completed at the University of New Haven. In addition, a minimum of 21 credit hours must be earned in business courses and a minimum of 21 credit hours must be earned in engineering courses.

THESIS

All students must write either a thesis or a seminar project. The thesis or project must show ability to organize material in a clear and original manner and present well-reasoned conclusions.

The thesis/project is written under the direction of the faculty member in charge of the departmental program or a faculty member with special competence in the subject matter covered by the thesis/project. The complete and final manuscript must be submitted to the thesis/project adviser prior to the end of the tenth week of the trimester

in which the candidate expects to complete the requirements for the degree.

Thesis preparation and submission must comply with Graduate School policy on Thesis detailed elsewhere in this bulletin.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
A 621	Managerial Accounting	3
FI 615	Finance	3
MK 609	Marketing	3
QA 605	Advanced Statistics	3
MG 637	Management	3
EC 625	Industrial Relations	3
EC 603	Microeconomic Analysis	3
EC 604	Macroeconomic Analysis	3
P 619	Organizational Behavior, *or*	
P 620	Industrial Psychology	3
IE 601	Introduction to Operations Research/ Management Science	3
IE 602	Quality Analysis	3
IE 603F	Introduction to Digital Computers (FORTRAN)	3
IE 604	Management Systems	3
IE 607	Probability Theory	3
IE 621	Linear Programming	3
IE 651	Human Engineering I	3
IE 686	Inventory Analysis	3
	Electives (Business)	6
	Electives (IE or Math)	6
		63
	plus either:	
	Project (Business or IE)	3
	Electives (Unrestricted)	6
	or:	
	Thesis	6
	Electives (Unrestricted)	3
		9
		72

Community Psychology

Coordinator: Robert J. Hoffnung, Associate Professor of Psychology, Ph.D., University of Cincinnati

The general purpose of the Master of Arts program in community psychology is to provide training at the graduate level for careers in human services delivery systems utilized in community mental health centers and community action programs. Specifically, the program strives to:

1. develop and enlarge the student's appreciation of the complexities, interrelationships and problems that characterize the community;
2. prepare students to utilize psychological backgrounds to solve contemporary community problems;
3. foster development of problem-solving strategies which enhance mental health, educational and personality development; and
4. train students in performance characteristics as members of research teams, therapeutic teams, and public information teams working under professional guidance.

A collateral objective is to provide graduate training in the late afternoon and early evening for the convenience of men and women who are employed on a full-time basis.

ADMISSION POLICY

Applicants are expected to possess social and interpersonal characteristics which will support success in human service occupations.

Students who give evidence of sustained interest in community and human service and who hold an undergraduate degree from an accredited college or university are eligible for admission.

Applicants are required to complete a questionnaire to be submitted directly to the Graduate School and may be required to submit scores from either the Miller Analogies Test or the Graduate Record Examination Aptitude Test. An undergraduate major in psychology is not specifically required as a basis for consideration. However, all students are expected to have at least an introductory level understanding of psychological concepts, principles, and methods before taking courses in the Master of Arts in community psychology program.

Requirements for the degree Master of Arts in community psychology

A total of 39 credit hours is required for the Master of Arts in community psychology degree. Candidates for this degree will be required to complete 21 credit hours of core curriculum courses, including three trimesters of field experience and practicum.

Eighteen of the 39 credit hours are electives chosen after consultation with a departmental adviser to help pursue individual academic and professional goals. The organization of the Master of Arts in community psychology program is such that elective courses constitute a very small part of the first year's work but become the major constituents of the second year.

TRANSFER CREDIT

Transfer credit may be given for graduate course work completed at other accredited institutions, subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

THESIS

Students electing to write a thesis must register for P 698 Thesis I and P 699 Thesis II. The thesis must show ability to organize materials in a clear and original manner and present well-reasoned conclusions.

The thesis is written under the direction of the faculty member in charge of the thesis seminar or a faculty member with special competence in the subject matter of the thesis. The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the trimester in which the candidate expects to complete the requirements for the degree.

Thesis preparation and submission must comply with the Graduate School policy on Thesis detailed elsewhere in this bulletin.

FIELD EXPERIENCE AND PRACTICUM SEMINAR

The field-study courses will be integrated with the instructional courses of the program. While the field-study courses are shaped by the agency program in which they occur, the student simultaneously carries on a rich program of reading. For each field-study trimester, the student will be required to prepare a plan of experience under the guidance of his adviser. At the end of each trimester the student will submit a report on his experience, skill development, and insights.

A salient characteristic of the field experience and practicum seminar sequence involves the role of the field experience coordinator who works with the student both at the site of the field experience and in the practicum seminar.

Program of Study

REQUIRED COURSES

Course Number and Title			*Credit*
P	605	Survey of Community Psychology	3
P	607	Special Problems in Community Psychology	3
P	609	Research Methods	3
P	611	Field Experience and Practicum Seminar I: The Dyadic Relationship	3
P	612	Field Experience and Practicum Seminar II: Models of Consultation	3
P	613	Field Experience and Practicum Seminar III; Systems Intervention	3
P	680	Community Mental Health Philosophy and Concepts	3
		Electives*	18
			39

*To be selected after consultation with a departmental adviser.

Computer and Information Science

Coordinator: William S. Gere Jr., Associate Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University

The Master of Science in computer and information science curriculum is an interdisciplinary program with a software orientation. It is designed to provide a high-level academic background for CIS managers and systems analysts in all career areas. A wide selection of electives allows students to concentrate in either technical or business applications.

Requirements for the degree Master of Science in computer and information science

The basic program consists of 48 credit hours. Required courses may be waived on the basis of undergraduate courses taken at accredited institutions.

All waivers must be approved in writing by the industrial engineering department, and are conditional upon subsequent academic performance. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

SEMINAR PROJECT

The program requires all students to complete IE 690 Seminar Project. This requirement is met by the preparation of a relevant seminar project report, prepared under the direction of a faculty adviser. The complete and final manuscript must be submitted to the project adviser prior to the end of the tenth week of the trimester in which the candidate expects to complete the requirements for the degree. For further specifications, see Research Projects, Seminar Projects, and Independent Study Requirements. It is suggested that a student begin work on the seminar project after having completed at least 15 credit hours.

In certain cases, students who routinely complete projects similar to the required Seminar Project as a part of their professional duties may petition to satisfy the Seminar Project requirement by taking two advanced industrial engineering electives in place of the project. Such a substitution must have the prior written approval of the program coordinator.

Program of Study

Required Courses

Course Number and Title		*Credit*
IE 603C	Introduction to Digital Computers (COBOL), *or*	
IE 603F	Introduction to Digital Computers (FORTRAN)	3
M 610	Fundamentals of Calculus and Linear Algebra	3
IE 604	Management Systems	3
IE 614	Data Information Systems	3
EE 615	Computer Logic and Intelligence	3
IE 601	Introduction to Operations Research/Management Science	3

IE	605	Advanced Business Programming, *or*	
IE	606	Advanced Technical Programming	3
IE	610	Computer Systems Selection	3
IE	690	Seminar Project	3
		Electives (I.E., Math, or E.E.)	9
		Electives	12
			48

Criminal Justice

Director: Robert D. Meier, Associate Professor of Criminal Justice, Ph.D., Columbia University

The President's Commission on Law Enforcement and Administration of Justice assigned a high priority to the task of improving the education and training of personnel entrusted with the administration of criminal justice in the United States.

A key objective of the Master of Science in criminal justice program is the training and education of men and women planning careers in the field of criminal justice as well as the advanced training and education of the men and women who staff the agencies and institutions of the criminal justice system.

The university views the criminal justice system as one continuous integrated process from a study of the nature of deviant behavior to the role of rehabilitation and parole.

The program stresses a broad understanding of the social and behavioral sciences, the institutions of the criminal justice system, and the development of methodological tools and skills. This is done somewhat at the expense of courses that are narrowly professional in the belief that the field of criminal justice is dynamic and that a broad understanding of the social and behavioral sciences and the methodological skills and tools will prove more valuable to a student's career in the long run than narrow professional training.

The broad fields of the criminal justice program at the university are social and behavioral science, the institutions of the criminal justice system, and methodological tools and skills.

The courses in the area of social and behavioral science stress the theories of the behavior of man in a social order and the sanctions imposed by different societies to control the social behavior of their members.

Courses in the area of criminal justice institutions stress the study of the existing system from the police, through the courts, the penitentiaries, and the system of probation and parole.

The methodological courses. expose students to the tools of research and analysis and the contribution of systems analysis to the efficient administration of the criminal justice system.

ADMISSION POLICY

In addition to the general Graduate School admission requirements, all criminal justice applicants must take the Aptitude Test of the Graduate Record Examination or the Miller Analogies Test as part of the admission procedure. GRE applications are available in the Graduate Office or by writing directly to the Educational Testing Service, Princeton, N.J. Miller Analogies Test may be taken at the UNH Counseling Center. Applicants are also required to complete a questionnaire to be submitted directly to the Graduate School.

Requirements for the degree Master of Science in criminal justice

A total of 45 credit hours is required of candidates for the degree of Master of Science of criminal justice.

Candidates must complete 21 credit hours of required courses in the core curriculum. After consultation with their adviser, students select 24 credit hours of electives from approved courses in the departments of criminal justice, economics, psychology, political science, sociology, industrial engineering and management science.

The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

THESIS

Students electing to write a thesis must register for thesis with the department. The thesis must show ability to organize material in a clear and original manner and present well-reasoned conclusions.

The thesis is written under the direction of the faculty member in charge of the departmental thesis program or a faculty member with special competence in the subject matter covered by the thesis. The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the trimester in which the student expects to complete the requirements for the degree.

Thesis preparation and submission must comply with the Graduate School policy on Thesis Requirements detailed elsewhere in this bulletin.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
CJ 601	Seminar in Interpersonal Relations	3
CJ 605	Social Deviance	3
CJ 610	Administration of Justice	3
CJ 628	Introduction to Systems Theory	3
CJ 635	Statistics in the Public Sector	3
CJ 637	Contemporary Issues in Criminal Justice	3
CJ 642	Research Techniques in the Social Sciences	3
	Electives (Approved)	24
		45

Electrical Engineering

Coordinator: Gerald J. Kirwin, Professor of Electrical Engineering, Ph.D., Syracuse University

This program is intended to meet the needs of professionally employed engineers and scientists for academic work beyond the baccalaureate level. It has been designed to deepen the understanding of modern analysis and synthesis techniques as they apply to engineering design. A major goal of this program is to provide a thorough discussion of the characteristics of the latest devices and systems and of their applications in current engineering design. Both analytical and numerical procedures are developed with particular emphasis on the use of computers for problem solving and as elements in larger systems.

The program centers on a core sequence which all students are expected to take. The core courses contain advanced methods of analysis and design which are of common interest to electrical engineers. Each student completes his program by electing courses that are particularly suited to his current professional interests. In general the elective courses must be chosen from those listed below. Early in his program the student, with the help and approval of his adviser, prepares a detailed plan insuring an overall educational experience that is integrated and logical. All decisions regarding both core and elective courses are subject to the final approval of the student's adviser.

ADMISSION POLICY

Admission to the program is open to persons holding an undergraduate engineering degree from an institution accredited by the Engineers Council for Professional Development (ECPD). Though admission decisions are based primarily on an applicant's undergraduate record, the promise of academic success is the essential factor for admission.

Requirements for the degree Master of Science in electrical engineering

A minimum total of 39 credit hours must be completed to earn the Master of Science in electrical engineering degree. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

THESIS

There is no specific thesis requirement for the Master of Science in electrical engineering. However, students are encouraged to submit a thesis proposal covering applied research in an area of mutual interest to the student and a supervising member of the faculty. If a proposal shows promise of yielding a worthwhile contribution to the professional objectives of the student and a faculty member accepts the role of supervisor, the student may embark upon the research and earn 6 elective credits. Students electing to do a thesis project will be expected to make an oral presentation of the results of the project.

The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the trimester in which the candidate expects to complete the requirements for the degree. Thesis preparation and submission must comply with the Graduate School policy on Thesis/Seminar Project Requirements detailed elsewhere in this bulletin.

The thesis is deposited permanently in the library. Students are required to submit two copies of the thesis for the library. Additional copies of the thesis are usually required. For this requirement and other regulations regarding the preparation of a thesis, students should consult the "Manual for the Preparation of Graduate Theses and Seminar Projects." Copies of the manual are available in the Graduate School Office.

Program of Study

REQUIRED COURSES

Course Number and Title			*Credit*
EE	601	Engineering Analysis I	3
EE	602	Engineering Analysis II	3
M	620	Numerical Analysis	3
IE	685	Theory of Optimization	3
EE	603	Discrete and Continuous Systems I	3
EE	604	Discrete and Continuous Systems II	3
EE	630	Electronic Instrumentation I	3
EE	640	Computer Engineering I	3
EE	650	Random Signal Analysis	3
		Electives (Approved)	12
			39

ELECTIVE COURSES

EE	605	Modern Control Systems
EE	608	Computer Aided Design
EE	631	Electronic Instrumentation II
EE	634	Digital Signal Processing I
EE	635	Digital Signal Processing II
EE	641	Computer Engineering II
EE	645	Power Systems Engineering I
EE	646	Power Systems Engineering II
EE	670	Microprocessors – Theory and Applications
EE	680	Special Topics – Electrical Engineering
EE	695	Independent Study I
EE	696	Independent Study II
EE	698	Thesis I
EE	699	Thesis II

Environmental Engineering

Coordinator: George R. Carson, Associate Professor of Civil Engineering, M.S.C.E., Columbia University; Professional Engineer (New York, New Jersey, Connecticut, Massachusetts); Landscape Architect (Connecticut)

The environmental engineering program is intended to meet the needs of engineers for academic work beyond the baccalaureate level.

The program is interdisciplinary in nature and incorporates both engineering and science courses.

There exists today a need for a substantial number of engineers knowledgeable in environmental areas. Industries which are required to control the pollution of air and water need environmental engineers. Federal, state and local governments must hire employees and consultants to assist them in environmental matters. Other new vistas will undoubtedly open to the environmental engineers in the future. Environmental engineers will be in increasingly greater demand with the continually increasing problems of pollution.

The recognition and solution of environmental problems are largely the responsibility of engineers and scientists. To perform effectively in this massive effort, they must be technically competent as well as knowledgeable in social and economic matters.

This program provides the advanced educational skills necessary to meet the ever increasing need for engineers with an environmental background. It is designed to offer vigorous, professionally oriented, engineering and science courses in the areas of solid waste, water, and air pollution.

Approximately two-thirds of the program consists of a required sequence of courses which each student must complete. The balance of the program consists of courses selected from the list of electives. Selection will be based on the student's principal field of interest. Each student, upon entering this program, will be assigned a faculty adviser who will consult with the student during his program of study and will assist the student in selection of suitable electives. The faculty adviser will also act as the student's research project adviser.

ADMISSION POLICY

Candidates for admission in the environmental engineering program are expected to have an engineering degree from an institution accredited by the Engineers Council for Professional Development.

Requirements for the degree Master of Science in environmental engineering

A total of 39 credit hours must be completed to earn the Master of Science in environmental engineering degree. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

Program of study

REQUIRED COURSES

Course Number and Title		*Credit*
CE 601	Water Treatment	3
CE 602	Wastewater Treatment	3
CE 605	Solid Waste Management	3
CE 606	Environmental Law and Legislation, *or*	
EC 608	Economics for Public Administrators	3
CH 601	Environmental Chemistry	3
SC 601	Ecology for Environmental Engineers	3,
SC 602	Pollutants and the Aquatic Environment, *or*	
SC 603	Air Pollution	3
CE 612	Advanced Wastewater Treatment	3
CE 613	Industrial Wastewater Control	3
CE 690	Research Project	3
	Electives (CE)	3
	Electives (Approved)	6
		39

Environmental Sciences

Coordinator: Dennis L. Kalma, Assistant Professor of Science and Biology, Ph.D., Yale University

The environmental sciences program is intended to meet the needs of scientists for academic work in environmental studies beyond the baccalaureate level. The program is interdisciplinary in nature and incorporates science and engineering courses. This program is designed to accommodate the student with a degree in one of the natural sciences.

There exists today a need for a substantial number of scientists knowledgeable in environmental areas. Industries which are required to control the pollution of air and water need environmental scientists. Federal, state and local governments must hire employees and consultants to assist them in environmental matters. Other new vistas will undoubtedly open to the environmental scientists of the future. Environmental scientists will be in increasingly greater demand with the continually increasing problems of pollution.

The recognition and solution of environmental problems are largely the responsibility of scientists and engineers. To perform effectively in this massive effort, they must be technically competent as well as knowledgeable in social and economic matters.

This program provides the advanced educational skills necessary to meet the ever increasing need for scientists with an environmental background. It is designed to offer vigorous, professionally oriented, science and engineering courses in the areas of solid waste, water, and air pollution.

Approximately two-thirds of the program consists of a required sequence of courses which each student must complete. The balance of the program consists of courses selected from the list of electives. Selection will be based on the student's principal field of interest. Each student, upon entering this program, will be assigned a faculty adviser who will consult with the student during his program of study and will assist the student in selection of suitable electives.

ADMISSION POLICY

Candidates for admission to the environmental sciences program would be expected to have a degree in one of the natural sciences where certain prerequisite courses have been completed. Students without these courses would be admitted to the program after completing these prerequisites.

Requirements for the degree Master of Science in environmental sciences

A total of 42 credit hours must be completed to earn the Master of Science in environmental sciences degree. The transfer of credit earned at other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
CE 601	Water Treatment, *or*	
CE 602	Wastewater Treatment	3
CE 605	Solid Waste Management	3
CE 606	Environmental Law and Legislation, *or*	
EC 608	Economics for Public Administrators	3
CH 601	Environmental Chemistry	3
SC 601	Ecology for Environmental Engineers	3
SC 602	Pollutants and the Aquatic Environment	3
SC 603	Air Pollution	3

SC 607	Characterization and Treatment of Wastes w/Lab	3
SC 608	Water Quality	3
SC 612	Freshwater and Marine Biology	3
SC 698-9	Thesis I & II	6
	Electives (Approved)	6
		42

SUGGESTED ELECTIVES

SC 621	Microbiology
SC 622	Bacteriology
SC 610	General Environmental Health

Executive Master of Business Administration

Director: Gilbert L. Whiteman, Associate Dean of the Graduate School, Associate Professor of Communication, Ph.D., Michigan State University

The Graduate School and the School of Business Administration offer an Executive Master of Business Administration (Executive M.B.A.) degree for high-level executives with extensive managerial experience. The program is designed specifically in consideration of managerial responsibilities and existing time constraints.

The Executive M.B.A. degree program is a two-year, part-time, degree program organized to meet the educational needs and executive responsibilities of corporate and institutional leaders. Individual participation is emphasized through class discussions and cooperation with others in the class. Each class is generally limited to between 15 and 20 students. Class members commence and conclude the program as a group.

No graduate transfer credit is accepted into the Executive M.B.A. program. Admission to the Executive M.B.A. degree program is by special application, the form for which may be obtained from the Graduate School. Classes commence in September and January, providing a sufficient number of qualified applicants have applied from which proper selection may be made. An admissions committee screens the applications to insure proper selection. Although students are required

to complete the Graduate Management Admission Test (GMAT), other important factors such as current position, length of top management experience, and prior formal education are important factors in the selection process. The selection committee attempts to provide from among the applicants those individuals who will bring a diverse grouping of managerial skills and experiences, thereby allowing the students to learn from each other as well as from the faculty.

The program consists of twenty courses scheduled into two ten-month academic calendar years. Each course is four sessions in length. All classes meet one afternoon/early evening per week in designated off-campus conference facilities for participant convenience. Participants must agree in advance to attend all classes except for emergencies. They must be prepared to devote additional time for class preparation and reading assignments.

Upon completion of the program, participants will be awarded the degree of Master of Business Administration for Executives.

Information concerning admission procedures and the academic calendar may be obtained by writing to the Graduate School.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
EXID 903	The Communication Process	1½
EXID 906	The Management Process	1½
EXID 909	Business and Government Relations	1½
EXID 912	Financial Accounting	1½
EXID 915	Quantitative Decision-Making	1½
EXID 918	Managerial Economics	1½
EXID 921	Executive Development Seminar	1½
EXID 924	Financial Management I	1½
EXID 927	Financial Management II	1½
EXID 930	Marketing Management	1½
EXID 933	International Business Seminar	1½
EXID 936	Logistics and Distribution	1½
EXID 939	Operations Research and Management	1½
EXID 942	Managerial Accounting	1½
EXID 945	Human Resource Management	1½
EXID 948	Labor-Management Relations	1½
EXID 951	Marketing Management Seminar	1½
EXID 954	Organizational Development	1½
EXID 957	Corporate Policy and Strategy	1½
EXID 960	The Executive Seminar	1½
		30

Forensic Science

Director: Henry C. Lee, Associate Professor of Criminal Justice, Ph.D., New York University

Forensic Science is a broad interdisciplinary field in which the natural sciences are employed to analyze and evaluate physical evidence related to matters of law. The interdisciplinary forensic science program will provide the advanced technical background for professionals in the forensic science field as well as for those in allied fields, such as pathology, law, criminal justice administration, security, investigation in various areas (crime, fire, insurance), environmental studies and chemistry, for whom knowledge of forensic science concepts and methods is vital for the advancement of professional performance.

The Master of Science in forensic science program stresses not only the up-dated analytical scientific methods, but also the broad understanding of forensic science concepts. The program centers on a core sequence of courses which all students are expected to complete. Advanced concentration can then be either in criminalistics or administration.

ADMISSION POLICY

For admission to the Master of Science in forensic science program, a student must have an undergraduate degree in a natural or related science. Applicants with deficiencies in one or more areas may be provisionally accepted and will be required to complete the appropriate courses during the early stage of the program before being fully matriculated. Applicants must take the aptitude test of the Graduate Record Examination or the Miller Analogies Test, and complete a questionnaire to be submitted directly to the Graduate School.

Requirements for the degree Master of Science in forensic science

Candidates are required to complete 40 credit hours of graduate work, including an internship in a forensic science laboratory or equal work with other related agencies. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

THESIS

Students electing to write a thesis must register for thesis credit with the department. The thesis must show an ability to organize material in a clear and original manner, and present well-reasoned conclusions. Thesis preparation and submission must comply with graduate school regulations detailed elsewhere in this bulletin.

The forensic science laboratory of the university is available for research, and the laboratory maintains close contact with various laboratories in the area to afford students the opportunity to observe, study and learn from many outstanding forensic scientists.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
CJ 647	Advanced Criminalistics I	4
CJ 648	Advanced Criminalistics II	4
CJ 657	Physical Analysis in Forensic Science	4
CJ 659	Biomedical Methods in Forensic Science	4

ADDITIONAL COURSES MAY BE TAKEN FROM THE FOLLOWING AREAS:

Basic Science Electives

CH 611	Special Topics in Advanced Organic Chemistry	3
CH 621	Chemical Forensic Analysis with Laboratory	4
CH 631	Advanced Instrumentation with Laboratory	4

Other courses will be developed during the 1978-79 school year. Study will include courses in pathology, immunology and serology, scientific photographic documentation, toxicology and biochemistry.

Criminal Justice Electives

CJ 608	Law and Evidence
CJ 610	Administration of Justice
CJ 615	Forensic Science in the Administration of Justice
CJ 628	Introduction to Systems Theory
CJ 637	Contemporary Issues in Criminal Justice
CJ 690	Research Project I
CJ 691	Research Project II
CJ 693	Criminal Justice Internship I
CJ 694	Criminal Justice Internship II
CJ 695	Independent Study

Other Electives

Up to nine credits of electives may be chosen from related areas within the graduate curriculum.

Gerontology

Coordinator: Walter O. Jewell III, Associate Professor of Sociology, Ph.D., Harvard University

The gerontology program is designed for both the practicing professional and those seeking entry into the expanding field of gerontology.

The study of gerontology has emerged as an interdisciplinary field. The core curriculum exposes students to the fundamental insights and perspectives of sociology, social welfare, political science, psychology and administration, and aids students in comparing and contrasting these disciplines. The core curriculum stresses the thorough understanding of the many factors that contribute to successful aging, and a sensitivity to negative outcomes of the process of aging and how to combat them.

Following completion of the core curriculum, the program offers two concentrations; one in psycho-social studies, and one in administrative studies. These concentrations are designed to increase expertise in either of two major areas in which gerontological careers concentrate. The aim in each track is to furnish students with exposure to crucial skills necessary to function effectively as gerontological professionals and to prepare them to pursue leadership roles in the field.

The gerontology program is suitable for government employees, health care professionals and program administrators working in the field of aging, and for those considering such careers now or in the future.

ADMISSION REQUIREMENTS

Prospective students must fulfill the admission requirements of the Graduate School. In addition, they may be required to fulfill additional requirements set by the Committee on Studies in Gerontology.

Requirements for the degree Master of Arts in gerontology

Each degree candidate will complete an 18-hour core curriculum, and either the 21-hour concentration in psycho-social studies or the 21-hour concentration in administrative studies. A total of 39 credit hours is required for the degree. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin. All waivers must be approved in writing by the program coordinator.

Program of Study

REQUIRED CORE COURSES

Course Number and Title			*Credit*
SO	651	Social Gerontology	3
P	672	Psychology of the Middle and Later Years	3
PA	644	Administration of Programs and Services for the Aged	3
PS	633	The Political Process and the Aged	3
SC	642	Physical Aging	3
SO	652	Seminar in Gerontology	3
			18

Students are expected to take SO 651, Social Gerontology early in their studies, and SO 652 toward the end of the program.

Concentration in Psycho-Social Relations

SO	641	Death and Suicide	3
SW	651	Social Work with the Elderly I: Individuals, Families and Groups	3
SW	652	Social Work with the Elderly II: Programs, Planning, Policies	3

Three of the following by advisement:

P	623	Psychology of the Group	3
P	625	Advanced Psychology of Human Development	3
P	630	Psychology of Personality	3
P	632	Group Dynamics and Group Treatment	3
P	636	Abnormal Psychology	3
			9
		Elective, by advisement	3

Students with no prior working experience in gerontology are strongly advised to undertake a field work practicum.

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Concentration in Administrative Studies

A	621	Managerial Accounting	3
P	619	Organizational Behavior	3
PA	604	Seminar in Communities and Social Change	3
PA	641	Institutional Budgeting	3
PA	643	Health and Institutional Planning	3
		A Management Science elective, by advisement	3
		Elective, by advisement	3
			21
		Total	39

Students with no prior working experience in gerontology are strongly advised to undertake a field work practicum.

Humanities

Director: Ralf E. Carriuolo, Professor of Music, Chairman, Department of Humanities, Ph.D., Wesleyan University

Coordinator: John Collinson, Professor of Philosophy, Ph.D., Johns Hopkins University

The program leading to a Master of Arts degree in Humanities will assist the student to develop an understanding of the range and capacity of social, practical, and artistic creativity; an appreciation of the cultural achievements of our past; and an increased sensitivity to the continuous intertwining of past achievement, present activity, and future aspirations – the constituents of any human culture.

The curriculum is interdisciplinary, designed for the adult seeking intellectual challenge. Colloquia are conducted by two faculty members from different academic areas, and are concerned with an historical period or a seminal idea. Seminars are given by a single instructor and are more particular in focus. Independent study enables students to pursue their own interests. All courses are conducted as part of a continuing dialogue between students and faculty, stressing the relevance of our cultural tradition to the problems and issues of contemporary American life.

Although the orientation of the program is toward Western thought, opportunity to pursue threads of investigation into other cultures is available and is encouraged.

Requirements for the degree Master of Arts in Humanities

Each student must accumulate forty-five hours of credit including the writing of a thesis. Transfer credit will be given where appropriate. The program should include at least seven colloquia and at least four seminars. It must include HU 606 Humanism and Its Methodology.

Industrial Engineering

Coordinator: William S. Gere Jr., Associate Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University

The Master of Science in industrial engineering is considered a fifth-year or professional degree, and is designed to provide a broad background in operations research, man-machine systems, and human factors analysis to students with undergraduate engineering or technical degrees from ECPD accredited schools.

Requirements for the degree Master of Science in industrial engineering

The basic program consists of 48 credit hours. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin. Required courses may be waived on the basis of undergraduate courses taken at accredited institutions. All wâivers must be approved in writing by the Department of Industrial Engineering, and are conditional upon subsequent academic performance. In some cases, the program coordinator may permit substitution of relevant courses in place of the required courses.

SEMINAR PROJECT

The program requires all students to complete IE 690, Seminar Project. This requirement is met by the preparation of a relevant seminar project report, prepared under the direction of a faculty adviser. The complete and final manuscript must be submitted to the project adviser prior to the end of the tenth week of the trimester in which the

candidate expects to complete the requirements for the degree. For further specifications see Research Projects, Seminar Projects and Independent Study requirements detailed elsewhere in this bulletin. It is suggested that a student begin work on the seminar project after having completed at least 15 credit hours.

In certain cases, students who routinely complete projects similar to the required Seminar Project as a part of their professional duties may petition to satisfy the Seminar Project requirement by taking two advanced industrial engineering electives in place of the project. Such a substitution must have the prior written approval of the program coordinator.

Program of Study

REQUIRED COURSES

Course Number and Title			*Credit*
IE	601	Introduction to Operations Research/Management Science	3
IE	607	Probability Theory	3
IE	603F	Introduction to Digital Computers (FORTRAN)	3
EC	604	Macroeconomic Analysis, *or*	
EC	603	Microeconomic Analysis	3
IE	651	Human Engineering I	3
IE	602	Quality Analysis	3
EC	625	Industrial Relations	3
P	619	Organizational Behavior, *or*	
P	620	Industrial Psychology	3
IE	690	Seminar Project	3
		Electives (IE or Math Courses)	9
		Electives	12
			48

Industrial Relations

Coordinator: Ronald N. Wentworth, Assistant Professor of Management Science, M.S.I.E., University of Massachusetts

Industrial relations, as a social and behavioral science discipline, is the field of study concerned with all aspects, both macro and micro, of the employment relationship. As an applied organizational and societal function, industrial relations is the profession concerned with the

management of the aggregate manpower resources available for, or engaged in the employment relationship.

As both an academic discipline and a profession, industrial relations is an interdisciplinary problem-solving field which attempts to resolve conflicts among four major parties to the employment relationship – employers, employees, unions and government.

The field of industrial relations has been growing rapidly and is becoming increasingly important for the effective functioning of almost all kinds of organizations. More and more companies and institutions have created activities requiring the services of personnel conversant with the large body of tools and knowledge which have been generated in the field in the past two decades.

The program will aim to present the knowledge and the skill needed to provide employment opportunities in various kinds of organizations in the fields of employee procurement, development, wage and salary administration, employee services and benefits, safety, labor-management relations, job and organization structuring, labor economics, supervision and manpower planning. The program will also establish the foundation for advanced study and research.

The interdisciplinary orientation of the MS in industrial relations program is emphasized in the required courses which are drawn from economics, management and psychology. It will be further supported in the program's concentration electives which will be drawn from economics, industrial engineering, management, political science, psychology, public administration and quantitative analysis.

ADMISSION POLICY

Admission is open to persons holding a baccalaureate degree from an accredited institution of higher education. The undergraduate degree should preferably, but not exclusively, be in the social and behavioral sciences (i.e., economics, history, political science, psychology, or sociology), business administration or public administration. Admission is also open to full-time employed professionals in personnel and industrial relations holding a baccalaureate degree in any field from an accredited institution.

Though admissions decisions are based primarily on an applicant's undergraduate record, the promise of academic success is the essential factor for admission. Any applicant may be required to complete selected undergraduate courses with a grade of B or better as a condition of admission. Before matriculating a student may be required to submit scores from either the Graduate Management Admissions Test (GMAT), the Graduate Record Examination (GRE), or the Miller Analogies Test. To demonstrate that they have acceptable communication skills, persons may be required to submit a writing sample and to have a personal interview with the industrial relations program coordinator. Finally, applicants are expected to possess personal attributes which will support success in the personal and industrial relations profession.

Requirements for the degree Master of Science in industrial relations

A minimum total of 39 graduate credit hours is required for the Master of Science in Industrial Relations degree. Of these 39 graduate credit hours, 21 graduate credit hours are in required industrial relations core courses and 18 graduate credit hours are in approved industrial relations elective courses. Prior to registering for elective courses, the student must secure written approval of the industrial relations program coordinator.

Candidates for the MS in industrial relations should be familiar with the use of statistics in solving problems and decision-making. Knowledge of statistics is assumed in the advanced courses in the industrial relations program. For students without this background, this prerequisite may be met by taking a course in probability and statistics as a prerequisite, thereby adding 3 credits to the total degree requirements.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
MG 637	Management	3
P 619	Organizational Behavior	3
EC 625	Industrial Relations	3
EC 627	Economics of Labor Relations	3
EC 687	Collective Bargaining	3
MG 678	Personnel Management Seminar	3
MG 679	Industrial Relations Seminar	3
	IR Core Course Credits	21
IR	Approved Electives	18
	Total Credits for Degree	39

Mechanical Engineering

Coordinator: Richard J. Greet, Associate Professor of Mechanical Engineering, Ph.D., Harvard University

This program is intended to meet the needs of professionally employed engineers and scientists for academic work beyond the baccalaureate level. It has been designed to increase competence in modern analysis and synthesis techniques as they apply to engineering design.

The program centers on a core sequence which all students are expected to take. The core courses contain advanced methods of analysis and design which are of common interest in engineering work. Students complete the program by electing a series of courses in mechanical engineering which is particularly suited to their current professional interests. Early in the program students, with the approval of their advisors, prepare a detailed plan insuring an overall educational experience that is integrated and logical.

All decisions regarding both core and elective requirements are subject to final approval of the student's advisor.

Requirements for the degree Master of Science in Mechanical Engineering

A minimum of 39 credits must be completed to earn the Master of Science in Mechanical Engineering degree. The transfer credit from other institutions will be permitted subject to the Graduate School policy on transfer credit. Thesis topics should be approved by the faculty adviser when the student has completed 18-21 graduate credits. Thesis preparation and submission must comply with Graduate School policy on thesis with the final manuscript submitted to the adviser prior to the end of the tenth week of the trimester in which the candidate expects to complete the requirements for the degree.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
M 624	Applied Mathematics	3
ME 602	Boundary Value Problems	3
ME 603	Approximation Methods	3

ME 604	Numerical Methods, *or*	
M 620	Numerical Analysis	3
ME 615	Theory of Elasticity	3
ME 625	Mechanics of Continua	3
ME 630	Advanced Fluid Mechanics	3
ME 698-699	Thesis	6
	Electives	12
		39

ELECTIVE COURSES

Course Number and Title		*Credit*
ME 610	Advanced Dynamics	3
ME 611	System Vibrations	3
ME 620	Classical Thermodynamics	3
ME 622	Statistical Thermodynamics	3
ME 627	Plasticity	3
ME 628	Modern Materials	3
ME 632	Advanced Heat Transfer	3
ME 635	Advanced Turbomachinery	3
ME 640	Combustion	3
ME 645	Computational Fluid Dynamics and Heat Transfer	3
ME 660	Advanced Design Philosophies	3
ME 680	Special Topics – Mechanical Engineering	3
ME 695	Special Studies	3

Operations Research

Coordinator: William S. Gere Jr., Associate Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University

The Master of Science in operations research curriculum provides thorough coverage of the theory, methodology and application of the techniques of operations research and systems analysis. The program is designed to prepare qualified applicants from diverse backgrounds to deal with major social, industrial, and business problems.

Requirements for the degree Master of Science in operations research

The basic program consists of 48 credit hours. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin. Required courses may be waived on the basis of undergraduate courses taken at accredited institutions. All waivers must be approved in writing by the Department of Industrial Engineering, and are contingent upon subsequent academic performance. In some cases, the coordinator may permit substitution of relevant courses in place of the required courses.

SEMINAR PROJECT

The Master of Science in operations research program requires all students to complete IE 690, Seminar Project. This requirement is met by the preparation of a relevant seminar project report, prepared under the direction of a faculty adviser. The complete and final manuscript must be submitted to the project adviser prior to the end of the tenth week of the trimester in which the candidate expects to complete the requirements for his degree. For further specification see Research Projects, Seminar Projects and Independent Study requirements detailed elsewhere in this bulletin. It is suggested that a student begin work on the seminar project after having completed at least 15 credit hours.

In certain cases, students who routinely complete projects similar to the required Seminar Project as a part of their professional duties may petition to satisfy the Seminar Project requirement by taking two advanced industrial engineering electives in place of the project. Such a substitution must have the prior written approval of the program coordinator.

Program of Study

REQUIRED COURSES

Course Number and Title			*Credit*
IE	601	Introduction to Operations Research/Management Science	3
IE	603F	Introduction to Digital Computers (FORTRAN)	3
IE	607	Probability Theory	3
M	610	Fundamentals of Calculus and Linear Algebra	3
EC	604	Macroeconomic Analysis, *or*	
EC	603	Microeconomic Analysis	3
IE	621	Linear Programming	3

IE	622	Queuing Theory	3
IE	685	Theory of Optimization	3
IE	686	Inventory Analysis	3
IE	688	Design of Experiments	3
IE	690	Seminar Project	3
		Electives (I.E., Math, or E.E.)	6
		Electives	9
			48

Organizational/Industrial Psychology

Coordinator: Dennis Courtney, Associate Professor of Psychology, Ph.D., Ohio State University

The Master of Arts in organizational/industrial psychology is designed as an interdisciplinary program leading to the development of expertise in the application of psychology for men and women involved in supervisory roles and for those planning such professional careers. The program emphasizes both the principles and procedures of psychology and the perspectives of other disciplines in preparing the student to meet organizational problems in their full complexity. Approximately two dozen top industrialists have agreed to assist the department in the continuing development of the program.

The program further strives to:

1. familiarize the student with contemporary research and publications concerned with mutual relationships between organizational characteristics and the employee's behavior;
2. provide the student with an improved understanding of psychological findings relating to personnel counseling, test administration and interpretation for selection, transfer, and promotion as well as management development;
3. enhance the student's knowledge of current psychological information and skills relating to human-need satisfaction, executive training, organizational climate, problem solving and decision making, effective organizational change, and the study of organizationally-induced stress.
4. familiarize the student with current psychological theory and findings relating to attitude measurement, personnel policy evaluation and development and management development programs;
5. meet the increasing needs of organizations for individuals with specialized research and human relations skills; and
6. provide graduate study on a late afternoon and early evening basis for the full-time employee.

ADMISSION POLICY

Applicants are expected to possess social and interpersonal characteristics which will support success in organizational settings.

Students who give evidence of a mature interest in the application of psychological principles to organizational problems and who hold an undergraduate degree from an accredited college or university are eligible for admission.

Applicants are required to complete a questionnaire and submit it directly to the Graduate School and may be required to submit scores from either the Miller Analogies Test or the Graduate Record Examination Aptitude Test. An undergraduate major in psychology is not specifically required as a basis for consideration. However, all students are expected to have at least an introductory level understanding of psychological concepts, principles, and methods before taking courses in the Master of Arts in organizational/industrial psychology program.

Requirements for the degree Master of Arts in organizational/industrial psychology

A total of 39 credit hours is required of candidates for the degree of Master of Arts in organizational/industrial psychology. Candidates for this degree will be required to complete 18 credit hours of required courses in the core curriculum. Another 21 credit hours of electives will be chosen after consultation with the department chairman, or a representative, in light of the student's academic and professional goals. The student may not complete more than 9 credit hours of electives until he/she has satisfied the core requirements. Up to 9 credit hours of electives may be taken in other departments, such as industrial engineering, economics, management, marketing, public administration or criminal justice.

Academic credit may be given for graduate courses taken at other accredited institutions. However, each candidate must complete a minimum of 30 credit hours in residence at the University of New Haven in order to qualify for this degree.

TRANSFER CREDIT

The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer of credit detailed elsewhere in this bulletin.

THESIS

Students electing to write a thesis must register for P 698, Thesis I, and P 699, Thesis II. The thesis must show ability to organize materials

in a clear and original manner and present well-reasoned conclusions.

The thesis is written under the direction of the faculty member in charge of the thesis seminar or a faculty member with special competence in the subject matter of the thesis. The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the trimester in which the candidate expects to complete the requirements for the degree. Thesis preparation and submission must comply with the Graduate School policy on Thesis/Seminar Project Requirements detailed elsewhere in this bulletin.

PROGRAM OPTIONS

In response to the different needs and levels of preparation of students in the program, the four following options are available:

Option 1 is recommended for an individual currently employed in a managerial or supervisory position. The practicum seminars will allow the student to investigate a specific job-related problem under expert faculty supervision.

Option 2 affords the student with limited work experience an opportunity to serve an industrial internship, providing the student the chance to observe real organizational/industrial situations to be analyzed and discussed with a faculty supervisor.

Option 3 will provide the student planning to pursue doctoral studies with an essential tool – the ability to do empirical research and report writing through the preparation of a thesis.

Option 4 consists of elective courses selected under faculty advisement. The choice of electives is intended to provide the student with a broad interdisciplinary background, complementing the student's own academic training and interest.

Normally the student should not begin work on any of the first three options until he/she has completed at least four core courses.

Program of Study

REQUIRED COURSES

Course Number and Title			*Credit*
EC	625	Industrial Relations	3
P	606	Seminar in Organizational/Industrial Psychology	3
P	609	Research Methods	3
P	619	Organizational Behavior	3

P	635	Assessment of Human Performance with Standardized Tests	3
P	640	Industrial Motivation and Morale	3
		Electives*	21
			31

ELECTIVE OPTIONS

Option 1

P	688	Practicum I	3
P	689	Practicum II	3
		Electives*	15

Option 2

P	693	Organizational Internship I	3
P	694	Organizational Internship II	3
		Electives*	15

Option 3

P	698	Thesis I	3
P	699	Thesis II	3
		Electives*	15

Option 4

		Electives*	21

*The choice of electives is made in consultation with a departmental adviser in light of the student's academic and professional goals.

Public Administration

Coordinator: Francis McGee Jr., Assistant Professor of Public Administration, M.P.A., Maxwell School, Syracuse University

The general purpose of the Master of Public Administration degree at the University of New Haven is the training of men and women at the

graduate level for public service careers. Specifically, the program strives to:

1. equip students with modern analytical and quantitative tools of decision making and their application to complex problems of government;
2. expose students to the wide range of administrative and managerial problems and responsibilities of government; and
3. increase the student's knowledge and skills in the particular management functions of budgeting, planning, public policy formulation, public finance, and public personnel administration.

Requirements for the degree Master of Public Administration

Forty-five graduate credit hours are required of candidates for this degree. A maximum of nine credit hours of required courses in the program may be waived upon written approval of the chairman of the Department of Public Administration or a faculty member acting on behalf of the chairman.

Of the 15 credit hours of electives in the M.P.A. program, six credit hours may be taken in graduate courses offered in other programs such as psychology, criminal justice, economics, and industrial engineering.

Program of Study

REQUIRED COURSES

Course Number and Title		*Credit*
PA 601	Principles of Public Administration	3
PA 602	Public Policy Formulation and Implementation	3
EC 608	Economics for Public Administrators	3
PA 611	Research Methods in Public Administration	3
PA 625	Administative Behavior	3
PA 620	Personnel Administration and Collective Bargaining in the Public Sector	3
PA 632	Public Finance and Budgeting	3
PA 604	Seminar in Communities and Social Change	3
PA 690	Research Project	3
PA 693	Public Administration Internship	3
	Electives	15
		45

Senior Professional Certificates

This program is limited to those already holding an advanced degree who want additional graduate study in a coherent program, but do not want to work toward another advanced degree.

Since the Senior Professional Certificate is not a degree, a student may transfer credits earned for a Certificate into a master's program at any time, subject to the requirements of the master's degree and the decision of the coordinator of the master's program, and to acceptance in the master's program.

Students completing work in a Certificate Program do not attend Commencement but will receive a certificate. A petition for certification must be filed with the Graduate Registrar and the appropriate fee paid. When the course work is reviewed and found complete the certificate will be mailed to the student.

Requirements for the certificate

The program consists of 15 or 18 credits, depending upon the area chosen. Students, having chosen their area of study, should contact the adviser who is listed for that particular area.

Programs of Study

Ten different certificates are offered. Three certificate programs allow options to chose a particular speciality. The programs are the following:

- Accounting and Taxation
  - I: Financial Accounting
  - II: Managerial Accounting
  - III: Taxation
- Applications of Psychology
- Computer Applications and Information Systems
- Economic Forecasting
- Finance
- General Management
- International Business
- Marketing
  - I: Marketing
  - II: Quantitative Techniques in Marketing
- Public Management
  - I: Survey of the Field
  - II: Urban and Regional Planning and Management
  - III: Public Personnel Management
- Quantitative Analysis

Accounting and Taxation

Adviser: Jeffrey L. Williams, Associate Professor of Accounting, C.P.A., C.M.A., M.B.A., University of Bridgeport

Option I:
Financial Accounting

A	650	Advanced Accounting Theory	3
A	654	Financial Statements: Reporting and Analysis	3
		and any three from the following:	
A	651	Financial Accounting Seminar	3
A	652	Advanced Auditing	3
A	653	Accounting for the Not-for-Profit Organization	3
A	656	International Accounting	3
			15

Option II:
Managerial Accounting

A	650	Advanced Accounting Theory	3
A	621	Managerial Accounting	3
		and any three from the following:	
A	661	Managerial Accounting Seminar	3
A	641	Accounting Information Systems	3
A	642	Operational Auditing	3
FI	615	Finance	3
			15

Option III:
Taxation

A	601	Federal Income Taxation I	3
A	602	Federal Income Taxation II	3
A	604	Corporate Income Taxation I	3
A	605	Corporate Income Taxation II	3
		and any taxation elective	
			15

Applications of Psychology

Adviser: Dennis Courtney, Associate Professor of Psychology, Ph.D., Ohio State

		any five from the following:	
P	621	Behavior Modification	3
P	623	Psychology of the Small Group	3
P	627	Attitude and Opinion Measurement	3
P	628	The Interview	3

P	629	Introduction to Counseling	3
P	630	Psychology of Personality	3
P	631	Social Psychology	3
P	632	Group Dynamics and Group Treatment	3
P	633	Problems of Drug Abuse	3
P	634	Personality Assessment	3
P	636	Abnormal Psychology	3
P	638	Psychology of Communication and Opinion Change	3
P	642	Organizational Change and Development	3
P	650	Ecological Psychology	3
P	670	Program Evaluation in Community Psychology	3
		Total of	15

Computer Applications and Information Systems

Adviser: William S. Gere Jr., Associate Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University

IE	604	Management Systems	3
IE	605	Advanced Business Programming	3
IE	610	Computer Systems Design	3
IE	614	Data Information Systems	3
IE	684	Multiprogramming Systems	3
			15

Economic Forecasting

Adviser: John Teluk, Associate Professor of Economics, M.A., Free University, Munich

EC	604	Macroeconomic Analysis	3
EC	635	Comparative Economic Systems	3
EC	645	Seminar in Macroeconomic Policy	3
EC	653	Econometrics	3
QA	607	Forecasting	3
			15

Finance

Adviser: Jeffrey L. Williams

FI	615	Finance	3
FI	651	Portfolio Management and Capital Market Analysis	3
FI	645	Corporate Financial Theory	3
FI	617	Financial Institutions and Capital Markets	3

and any two from the following:

FI	649	Security Analysis	3
A	654	Financial Statements: Reporting and Analysis	3
FI	661	Real Estate: Principles and Practices	3
FI	619	Monetary and Central Banking Policy	3
			18

General Management

Adviser: Wilfred R. Harricharan, Professor of Management Science, Ph.D., Cornell University

any six from the following:

MG	662	Organization Theory	3
MG	663	Leadership in Organizations	3
MG	664	Organizational Effectiveness	3
MG	669	Business Policy and Strategy	3
MG	680	Current Topics in Business Administration	3
MG	661	Development of Management Thought	3
MG	650	Venture Management	3
MG	695	Readings in Management	3
			18

International Business

Adviser: Gene F. Brady, Associate Professor, Ph.D.,University of Oregon

IB	643	International Business Operations	3
		and any four from the following	
IB	644	Import and Export Business	3
IB	645	Structure of World Markets	3
MG	660	Comparative Management	3
IB	651	Comparative Marketing	3
IB	652	Multinational Business Operations	3
EC	660	Economic Development of Japan	3
EC	620	Economic History of Western Europe	3
PS	603	International Law	3
			15

Marketing

Adviser: Gene F. Brady

Option I:
Marketing

MK 609	Marketing	3
	and any four from the following:	
MK 616	Analysis of Buyer Behavior	3
MK 643	Product Management	3
MK 644	Consumerism	3
MK 645	Distribution Strategy	3
MK 639	Marketing Research and Information Sytems	3
MG 680	Current Topics in Business Administration	3
IB 643	International Business Operations	3
IB 651	Comparative Marketing	3
		15

Option II:
Quantitative Techniques in Marketing

QA 604	Probability & Statistics	3
IE 603F	Introduction to Digital Computers: FORTRAN	3
	and any three from the following:	
MK 639	Marketing Research and Information Systems	3
QA 607	Forecasting	3
MK 641	Marketing Management	3
IE 615	Transportation and Distribution	3
		15

Public Management

Adviser: Francis P. McGee Jr., Assistant Professor of Public Administration, M.P.A., Maxwell School, Syracuse University

Option I:
Survey of the Field

	any five from the following:	
PA 630	Governmental Accounting	3
PA 625	Administrative Behavior	3
EC 665	Urban and Regional Economic Development	3
PA 660	Urban Planning: Theory and Practice	3
PA 620	Personnel Administration and Collective Bargaining in the Public Sector	3
PA 608	The Legislative Process	3

PA	662	Environmental Design	3
PA	632	Public Finance and Budgeting	3
PA	611	Research Methods in Public Administration	3
			15

Option II:
Urban and Regional Planning and Management

PA	630	Governmental Accounting	3
EC	665	Urban and Regional Economic Development	3
PA	660	Urban Planning: Theory and Practice	3
PA	662	Environmental Design	3
PS	616	Urban Government and Politics	3
			15

Option III:
Public Personnel Management

PA	620	Personnel Administration and Collective Bargaining in the Public Sector	3
EC	691	Labor Legislation	3
EC	625	Industrial Relations	3
PA	625	Administrative Behavior	3
		and one from the following:	
P	634	Personality Assessment	3
P	635	Assessment of Human Performance with Standardized Tests	3
			15

Quantitative Analysis

Adviser: Wilfred Harricharan

IE	604	Management Systems	3
QA	604	Probability and Statistics	3
QA	605	Advanced Statistics	3
QA	606	Advanced Management Science	3
QA	607	Forecasting	3
			15

Taxation

Coordinator: Jeffrey L. Williams, Associate Professor of Accounting, M.B.A., University of Bridgeport, C.P.A., C.M.A.

Society's decision to pursue collectively, through the instrument of governmental policy, a variety of economic and social goals has led to the development of a complex body of "tax law." Given the dynamic state of society's economic and social goals, and the alternative means for their accomplishment, the body of "tax law" characteristically exists in a continual state of change.

The complex and dynamic structure of "tax law" is significant not only because of its impact upon the process of accomplishing society's goals but also because of its influence upon the economic decision-making process in which society's members are constantly engaged. The tax consequences at the applicable governmental level – federal, state, and local – of economic decisions made by society's members have been and will continue to be an increasingly important consideration.

PROGRAM OBJECTIVES

In recognition of the above, a need to prepare technically competent individuals for careers in the field of taxation has developed. Owing to the complex and dynamic nature of "tax law," it appears appropriate to conduct this preparation at an advanced level of inquiry with an emphasis upon examining the issues of current interest in taxation. Accordingly, the Master of Science program in taxation has been designed as a framework to accomplish the following structure of objectives:

1. To apprise the students of the role of "tax law" relative to social and economic policy.
2. To prepare students with approaches relative to the integration of "tax law" with the economic decision-making process.
3. To prepare the students for technical competence relative to understanding and interpreting "tax law."
4. To prepare students with approaches to independent research in taxation.
5. To familiarize students with Internal Revenue procedures.

Given the above objectives, the Master of Science program in Taxation provides a framework through which advanced and timely tax training can be acquired by experienced professionals (accountants and attorneys) practicing in the field of taxation, as well as individuals seeking to prepare themselves for entry into career positions in taxation.

ADMISSION POLICY

Admission to matriculation in the program is available to CPA's, attorneys, and persons holding an undergraduate degree from an accredited institution, preferably, but not exclusively, in accounting or in business administration with a major in accounting. Persons holding other than the above degrees will be required to take a number of selected undergraduate courses as a condition for admission. Admission is based primarily on an applicant's undergraduate record; however, the promise of academic success is the essential factor for admission. In support of their application, persons may submit their scores from the Graduate Management Admissions Test (GMAT). An applicant may be required to take this test.

Requirements for the degree Master of Science in taxation

A minimum total of 36 credits is required for the Master of Science in taxation. The 36 credits will include 24 credits from required core courses and 12 credits from electives. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

Program of Study

REQUIRED COURSES

Course Number and Title			*Credit*
A	601	Federal Income Taxation I	3
A	602	Federal Income Taxation II	3
A	604	Corporate Income Taxation I	3
A	605	Corporate Income Taxation II	3
A	607	Tax Accounting	3
A	608	Estate and Gift Taxation	3
A	614	Federal Tax Practice and Procedure	3
A	615	Research Project in Federal Income Taxation	3
			24
		Electives	12
		Total	36

ELECTIVE COURSES

A	603	Federal Income Taxation III
A	606	Corporate Income Taxation III
A	609	State and Local Taxation
A	610	Consolidated Returns
A	611	Income Taxation of Estates and Trusts
A	612	International Taxation
A	613	Taxation of Partnerships and Partners

COURSE DESCRIPTIONS

Unless otherwise indicated, all graduate courses carry three credit hours.

Department of Accounting

A 600 Accounting No Credit

The principles and procedures underlying the generation of financial accounting information.

A 601 Federal Income Taxation I

An introduction to tax policy and the basic principles of the Federal income tax law. Coverage entails the key concepts of gross income, adjusted gross income, deductions, exemptions and credits, with special attention given to the provisions of the Internal Revenue Code affecting individual taxpayers.

A 602 Federal Income Taxation II

Prerequisite: A 601. A continuation of Federal Income Taxation I emphasizing the basic provisions concerning dispositions of property: analysis of basis, recognition of gain or loss, capital asset transactions and nonrecognition exchanges. Coverage extended to assignment of income theories, tax minimization and maxitax and deferred payment sales.

A 603 Federal Income Taxation III

Prerequisite: A 602. Advanced concepts of Federal income taxation. Further study of capital gains and losses including stock options, mortgages, bootstrap sales, sale of patent rights and know-how, sale of copyrights and tax shelter and deferral techniques. Principles of income in respect of a decedent are also introduced.

A 604 Corporate Income Taxation I

Prerequisite: A 602. A foundation course analyzing the basic Federal income provisions affecting corporations and shareholders. Course coverage includes organization of the corporation, corporate capital structure, corporate distributions, stock redemptions, bail-out techniques and liquidations.

A 605 Corporate Income Taxation II

Prerequisite: A 604. A detailed analysis of the Federal income tax rules covering corporate reorganizations and divisions. Also discussed are some of the nontax aspects of corporate reorganizations such as S.E.C., anti-trust, and business reasons for choice of particular method.

A 606 Corporate Income Taxation III

Prerequisite: A 605. Advanced study in the corporate tax area including subchapter S corporations, collapsible corporations, accumulated earnings tax, affiliated corporations and carryover of corporate tax attributes.

A 607 Tax Accounting

Prerequisite: A 601. Investigation of such areas as: problems of allocating income and deductions to the proper tax year, permissible tax accounting methods, depreciation, inventory methods, net operating losses, installment reporting, change in accounting method and comparison of business and tax accounting principles.

A 608 Estate and Gift Taxation

A comprehensive introduction to, and analysis of, the Federal estate and gift tax laws including basic principles of estate planning. Procedures for preparation of the estate and gift tax returns are treated. Brief coverage is also given to state death and inheritance taxes.

A 609 State and Local Taxation

The tax problems encountered at the state and local level by businesses engaged in interstate commerce. Federal limitations on the taxation of multi-state enterprises and jurisdictional problems are examined. Specific areas covered are: license to do business, net income, franchise, gross receipts, property, and sales and use taxes. Apportionment problems are examined in detail.

A 610 Consolidated Returns

Prerequisite: A 604. A thorough analysis of the Federal consolidated tax return provisions including eligibility and whether to file a consolidated taxable income; intercompany transactions and deferral concepts; basis in the disposition of stock of a subsidiary; computation of earnings and profits; and mechanics of preparing the consolidated return.

A 611 Income Taxation of Estates and Trusts

Prerequisite: A 602. Federal income taxation of estates, trusts, grantors, and beneficiaries. Topics are simple and complex trusts, throwback rules, taxable and distributable net income, assignment of income concepts and income in respect of a decedent, preparation of the estate and trust returns.

A 612 International Taxation

Prerequisite: A 604. Consideration of the Federal income tax treat-

ment of nonresident aliens and foreign corporations and the foreign income of U.S. residents and domestic corporations; comparison of alternative methods of engaging in operations abroad; foreign tax credit; allocations under code Section 482; Section 367 rulings; and the effect of tax treaties.

A 613 Taxation of Partnerships and Partners

Prerequisite: A 602. A study of the Federal income tax problems encountered in the formation and operation of a partnership, including computations of taxable income, sale of a partnership interest, withdrawal of a partner, death or retirement of a partner, and distribution of partnership assets. Limited partnerships are also covered. Procedure for preparation of the partnership return.

A 614 Federal Tax Practice and Procedure

Prerequisite: A 601. A study of the history and organization of the Internal Revenue Service, the selection of returns for audit and the review steps at the administrative level. Code provisions covered will include; filing requirements, statutory notices, restriction on assessment, statute of limitations, refund procedures, waivers, closing agreements, protests, and rulings.

A 615 Research Project in Federal Income Taxation

Prerequisite: 15 graduate hours. This course is devoted to a study of the techniques and tools of tax research. Reference sources studies include tax looseleaf services, I.R.S. Cumulative Bulletin, court cases, Congressional Bulletin, court cases, Congressional committee reports, textbooks published articles. A significant research paper devoted to a subject of topical interest is required.

A 621 Managerial Accounting

Prerequisite: A 600 or 6 or more credits in accounting. Accounting analysis for the managerial functions of planning, controlling and evaluating the performance of the business firm.

A 641 Accounting Information Systems

Prerequisite: A 621. An examination of the function and limitations of internal accounting information systems and their relationship to other decision-oriented business information systems.

A 642 Operational Auditing

Prerequisite: A 621. An analysis of the principles underlying and the procedures applying the function of auditing the results of firm-related business decisions.

A 650 Advanced Accounting Theory

Prerequisite: 6 hrs. of intermediate accounting. Considers the theoretical aspects of accepted accounting principles and their significance as a frame of reference for the evaluation of accounting practices. Considerable attention is focused on the role of regulatory agencies and professional accounting organizations with regard to their influences upon accounting theory and practice.

A 651 Financial Accounting Seminar

Prerequisite: A 650. An examination and evaluation of current literature in external accounting issues and related fields.

A 652 Advanced Auditing
Prerequisite: 3 hours of auditing. An analysis of the contemporary problems surrounding the attest function performed by the professional independent auditor.

A 653 Accounting for the Not-for-Profit Organization
Prerequisite: 6 hrs. of intermediate accounting. An intensive examination of the contemporary views toward financial reporting for the not-for-profit organizations.

A 654 Financial Statements: Reporting and Analysis
Prerequisite: FI 651. An examination of financial reporting practices for financial statement analyses in view of modern theoretical and empirical financial decision-making research.

A 656 International Accounting
Prerequisite: 6 hrs. of intermediate accounting. An analysis of the literature related to the current and growing interest in the development of accounting standards for business enterprises throughout the world.

A 661 Managerial Accounting Seminar
Prerequisite: A 621. An examination and evaluation of current literature in internal accounting issues and related fields.

A 690 Research Project
Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

A 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

A 699 Thesis II
Prerequisite: A 698. A continuation of A 698, Thesis I.

Department of Civil and Environmental Engineering

CE 601 Water Treatment
Advanced design principles and practices in water treatment processes; study of unit processes and operations; water treatment plant design; methods of population projection; water distribution systems.

CE 602 Wastewater Treatment
Advanced design principles and practices in sewage treatment processes; study of unit processes and operations; secondary sewage treatment plant design; sludge handling and disposal; sewage collection systems; introduction to advanced treatment methods.

CE 605 Solid Waste Management

Characteristics, volumes, collection and disposal of solid waste and refuse. Design of processing, recycling, and recovery equipment, landfill design and operation, resource recovery, incineration.

CE 606 Environmental Law & Legislation

Review and techniques of enforcement of state and federal pollution control laws and regulations; effects on waste treatment criteria and design and evaluation of municipal ordinances; preparation of environmental assessments and impact statements.

CE 612 Advanced Wastewater Treatment

Prerequisite: CH 601 which may be taken concurrently. Theories and principles of advanced sewage treatment including nutrient removal, demineralization, distillation, ozonation, carbon filtration, ion exchange, nitrification; design of facilities; upgrading secondary plants.

CE 613 Industrial Wastewater Control

Prerequisite: CH 601. Characteristics of industrial wastes, volumes, sources, types; methods of volume reduction, waste segregation, recovery, recycle, and waste treatment.

CE 614 Water Pollution Control

Causes and effects of pollution on marine water bodies; study of chemical, biological, and physical characteristics and responses; tidal effects; survey, sampling and modeling; dredge spoil disposal; estuarine ecology.

CE 615 Rural and Agricultural Waste Disposal

Handling and disposal of domestic wastewaters in rural areas; characteristics and treatment of agricultural wastewaters and waste solids; lagooning, composting, soil injection and application.

CE 616 Ground Water Waste Disposal

Study of effects of disposal of wastewaters in ground waters; travel of pollutants through soil; removal of nutrients and pollutants by soil interactions; leachate identification and control from refuse disposal areas.

CE 617 Special Problems in Wastewater Management

Solutions to problems in sewer infiltration, combined sewers and sewer separation; management techniques of sewer systems, user charges and capital cost recovery in municipal sewage collection and treatment facilities. Preparation of cost effectiveness studies.

CE 618 Air Pollution Control

Sources and effects of air pollution, monitoring, sampling and modeling; design of incineration devices and treatment facilities. Enforcement techniques, complex sources, computer simulation.

CE 680 Special Topics–Civil Engineering

A study of related topics of particular interest to students and instructor. Course may be taken more than once.

CE 690 Research Project
Prerequisite: 18 graduate hours or permission of Chairman of the Department of Civil Engineering and adviser. Independent study under the guidance of an adviser into an area of mutual interest, each study terminating in a technical report of academic merit. Research may be in such environmental areas as water resources, stream pollution, solid waste management or air pollution.

CE 695 Independent Study in Environmental Engineering
Prerequisite: permission of program coordinator. Independent study under the guidance of an adviser into an area designated by the program coordinator.

CE 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

CE 699 Thesis II
Prerequisite: CE 698. A continuation of CE 698, Thesis I.

Department of Chemistry

CH 601 Environmental Chemistry
Advanced study of the chemical reactions necessary to understand the impact that man's activities have on the environment. Areas considered include water and air pollution, power generation, and the release and use of industrial organic chemicals.

CH 611 Special Topics in Advanced Organic Chemistry
Advanced course dealing with topics such as stereochemistry, photochemistry, natural products and mechanisms of organic reactions.

CH 621 Chemical Forensic Analysis with Laboratory (4 credits)
A course intended to present advanced techniques and new developments in the identification of various materials such as pigments, dyestuffs, food additives, pharmaceutical preparations, polymers, synthetic fibers, and inorganic material products. Laboratory fee required

CH 631 Advanced Instrumentation with Laboratory (4 credits)
A course intended to provide background for the recent advances made in instrumentation and also to provide exposure to some of the techniques involved. Laboratory fee required

Division of Criminal Justice

CJ 601 Seminar in Interpersonal Relations
Interpersonal communication in teaching, supervision and in various work relationships. The criminal justice worker as a resource person and facil-

itator of others is stressed. Humanistic psychology and interpersonal psychology provide the theoretical base.

CJ 602 Seminar in Social Control

An examination of the formal and informal mechanism of controlling or conditioning the social behavior of man vis-a-vis the system of social norms, laws and institutions. The implication of organizing the system of justice under a punishment or rehabilitative ethic will be considered.

CJ 604 Seminar in Theory and Philosophy of Law

The theory and philosophy of law and the relationship between law and society. Emphasis on the nature of the judicial process, the issues of law and personal morality, nonvictim crimes, and the relationship of enforcement agencies to the rules of law.

CJ 605 Social Deviance

A survey of theories relating to the scope and nature of the crime problem. Consideration of the problems of deviancy, including social norms deviancy, mental disturbances, juvenile crime, and the various possible and actual responses to deviancy. Various approaches to the problem of rehabilitation.

CJ 607 Seminar in Criminal Justice Institutions

The machinery of justice in theory and practice. The rule of law and its excèptions in the actual administration of justice. Emphasis on the progressive changes in the development of children's and adolescents' courts, probation and classification clinics. Crime prevention and reforms of the criminal law. Special problems of justice and the poor. Administrative denials of justice, the insane offender, the white-collar criminal and social reconstruction through law.

CJ 608 Law and Evidence

Comprehensive analysis of the rules of evidence. Topics include judicial notice, presumptions, the nature of real and circumstantial evidence, hearsay evidence, confessions and admissions and witnesses. Emphasis on evidence in criminal cases.

CJ 609 Criminological Theory

An analytical review of the multidisciplinary theories of criminal behavior. The impact of various theoretical constructs and concepts on practice will be critically evaluated.

CJ 610 Administration of Justice

A study of all the steps of the criminal justice system from the time the accused is arrested until sentencing to a correctional facility with an objective to review all the problems which arise during this process and to consider some possible solutions which will benefit the individual being processed without subverting the purposes of the process.

CJ 612 Concepts and Issues in Police Administration

The development of the theory and practice of police administration in the United States. Significant developments and ideas of those who have made major contributions to American police administration.

CJ 613 Alternatives to Prosecution

Areas to be covered will be the history, theory and practice of pre-trial diversion, as well as the legal, social and administrative problems inherent in diversionary approaches. Among the specific alternatives to be examined will be: youth service bureaus, family courts, citizen dispute settlement, community responsibility programs and various pre-trial intervention programs.

CJ 615 Forensic Science in the Administration of Justice

The role of natural science in the administration of justice in its broadest aspects. Current concepts, present status and future needs of the forensic sciences. Specific topics in the forensic sciences and their inter-relationships with legal issues will also be included.

CJ 617 Correctional Administration

Prerequisite: CJ 610. The basic organization and objectives of a department of correction. Specific administrative principles required for effective conduct and operation of a correctional organization.

CJ 618 Probation and Parole: Theory and Practice

The philosophy, theory and methods employed in probation, parole and institutional treatment of the offender. The role of authority, casework, classification, treatment policy and adminstrative organization in determining the consequences of correctional practice.

CJ 619 Seminar in Comparative Criminal Justice Systems

Prerequisite: CJ 610. A cross-cultural study of police, court and correctional systems and methods.

CJ 620 Sociology of Criminal Law

A study of the social origins and consequences of criminal law and legal processes. Emphasis on problems of legal change and the structure and functioning of legal sanctions. Emphasis on social and institutional pressures in creating socio-legal policy.

CJ 622 Learning Theory: Applications in Criminal Justice

Applications of the psychology of learning to police and correction settings.

CJ 624 Group Process in Criminal Justice

Small group interaction; both theoretical and experimental facets of group process are presented. Group counseling and encounter groups.

CJ 628 Introduction to Systems Theory

Concepts of systems theory and systems analysis in contemporary socio-technical environments.

CJ 630 Delinquency and Juvenile Crime

Prerequisite: CJ 610. A general introduction to the field of delinquency and crime, including all aspects of the social, legal and personal matrix out of which these forms of behavior emerge. Special emphasis will be given to the process and implications of delinquency labeling.

CJ 635 Statistics in the Public Sector

Statistical techniques applied to the public sector. Descriptive statistics: measures of central tendency and variability. Introduction to statistical inference including sampling distributions and tests of significance. Some techniques of nonparametric statistics, multiple regression and elementary decision theory. Analysis of variance and covariance.

CJ 637 Contemporary Issues in Criminal Justice

Topics selected by students relating to current issues and concerns in the field of criminal justice. Each student will be required to write a paper and deliver an oral presentation on a selected topic.

CJ 642 Research Techniques in the Social Sciences

Research methodology as applied to problems and issues in the field of criminal justice.

CJ 644 Police in Urban Society

An introduction to some of the current thinking and problems of policing in urban society. The course will examine such issues as the historical growth of the police, the role and mission of the police, measurement of the police tasks, police corruption and other topics of interest to the seminar members. The course will stress the development of analytic thinking in defining and dealing with police problems.

CJ 647 Advanced Criminalistics I (4 credits)

The comparison and individualization of physical evidence by biological and chemical properties is presented in lectures and carried out in the laboratory. The theories and practice of microscopic, biological, immunological and chemical analysis are applied to the examination of blood, saliva, semenal fluid, hair, tissues, botanical evidence and other material of forensic interest.

Laboratory fee required

CJ 648 Advanced Criminalistics II (4 credits)

Advanced microscopic, chemical and instrumental methods will be introduced with extensive "hands-on" experience provided by a laboratory section. Principles and methods of analysis of microscopic and macroscopic evidence such as glass, soil, papers, inks, dyes, paints, varnishes, explosives, fibers, drugs and other potential physical traces will be discussed in class.

Laboratory fee required

CJ 651 Problems in the Administration of Justice

A study of the interaction between the law enforcement official and the accused beginning with detention and/or arrest, during which time the official is seeking to secure incriminating evidence effectively while still protecting the Fourth, Fifth and Sixth Amendment constitutional rights of the "presumed innocent" accused.

CJ 655 Bureaucratic Organization of Criminal Justice

Prerequisite: CJ 610. Through an application of modern organizational theory, a critical analysis of criminal justice agencies will be made. Emphasis will be placed on viewing criminal justice in theoretical perspective. Linkages between theory and operationalization of principles will be made.

CJ 657 Physical Analysis in Forensic Science (4 credits)
The classic firearms examination, classification and comparison of bullets and cartridges, toolmarks comparison and striation analysis, serial number restoration, document examination, voice print identification, fingerprints and polygraphy examination. Laboratory fee required

CJ 658 Psychiatry and the Law
An examination of issues that relate to the interaction between the law and mental illness and the general role of forensic psychiatry.

CJ 659 Biomedical Methods in Forensic Science (4 credits)
Methods and application of modern toxicology, biochemistry, pathology, dentistry and medicine in forensic science. Laboratory fee required

CJ 670 Selected Issues
A study of selected issues of particular interest to the students and instructor. May be taken more than once.

CJ 672 Innovative Treatment Programs in Corrections
The theory and practice of a wide range of innovative correctional treatment modalities will be analyzed. Students will be given the opportunity to participate in various experiential exercises and to develop and propose new treatment approaches.

CJ 690 Research Project I (1 – 3 credits)
Individual guidance on a research endeavor: this may include work on a thesis.

CJ 691 Research Project II (1 – 3 credits)
Prerequisite: CJ 690.

CJ 693 Criminal Justice Internship I
The student's formal educational development will be complemented by field placement experience in various criminal justice settings or agencies. Field experience will be supervised by designated agency and departmental personnel.

CJ 694 Criminal Justice Internship II
Prerequisite: CJ 693.

CJ 695 Independent Study (1 – 3 credits)
Student will engage in a directed independent learning experience. The topic and format to be agreed upon by the student and supervising faculty.

CJ 697 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress toward the completion of the thesis.

CJ 698 Thesis II
Prerequisite: CJ 697. A continuation of CJ 697, Thesis I.

CJ 699 Thesis III
Prerequisite: CJ 698. A continuation of CJ 698, Thesis II.

Department of English

E 600 The Uses of Language No Credit

Limited to qualified international students who speak a language other than English. Emphasis upon conversation, pronunciation, composition and laboratory work in the English language.

Department of Economics

EC 600 Basic Economics No Credit

A basic theoretical foundation for students who have a deficiency in economics. The course is a review and refresher of basic economic principles.

EC 603 Microeconomic Analysis

Prerequisite: undergraduate Principles of Economics or EC 600, Basic Economics. Topics in resource allocation and price determination. Theories of choice of consumers, firms, resource owners under monopoly, monopsony, competition and alternative market forms.

EC 604 Macroeconomic Analysis

Prerequisite: undergraduate Principles of Economics or EC 600, Basic Economics. An examination of the roles of consumption, investment, government finance and money influencing national income and output, employment, the price level and rate of growth. Policies for economic stability and growth.

EC 608 Economics for Public Administrators

An examination of the roles of consumption, investment, government expenditure and money influencing national income, output, employment, and price level, and growth rate. Special emphasis upon the roles of fiscal and monetary policy and the economics of contemporary social problems.

EC 620 Economic History of Western Europe

A survey of the economic development of western Europe from 1500 to the present. Topics covered include mercantilism, industrialization, imperialism and the emergence of planned economics.

EC 625 Industrial Relations

A survey of the problems, strategies and policies of management and unions in conflict situations and in harmonizing labor-management relations. Labor legislation, collective bargaining and alternative strategies, productivity and other problem areas in labor-management relations are examined.

EC 627 Economics of Labor Relations

A survey of labor economics and the economics of labor relations using both the tools of economic analysis and institutional analysis. The emphasis is on the application of economics to labor problems and labor-management relations.

EC 629 Public Policies Toward Business

Prerequisite: EC 603-604. A survey of the economic aspects of government and business relations. Emphasizes the concept of public control over certain types of business and certain forms of business activity. Combination movements, pricing procedures, anti-trust laws and agencies enforcing them, regulation of transportation and public utilities, rate-making for transport, pricing public utility services, consumer protection and social responsibility.

EC 630 Structure of American Industry

An examination of several major U.S. industries such as automobiles, steel, petroleum, defense and agriculture. Some contemporary problems are analyzed. A study of the powerful economic forces acting on these industries and how firms react to these forces.

EC 635 Comparative Economic Systems

Prerequisite: EC 603-604. Capitalism, Socialism, Communism and other economic systems will be examined with respect to their theoretical foundations and practical applications, including the interrelationships among economic, political and social institutions.

EC 641 International Economics

Prerequisite: EC 603-604. A study of the basic theory and major institutions of international economic relations. Examines critically the techniques and background of protectionism and free trade, and the analysis of customs, unions and price and exchange rate changes. The theory of comparative advantage; the gains from trade and the terms of trade. The balance of payments and national income. Capital movements and economic growth. The evolution of the world economy and international economic institutions. Effects of growth on trade, and trade on growth. Monopolistic practices in international trade. The international monetary system and international monetary reforms.

EC 645 Seminar in Macroeconomic Policy

Prerequisite: EC 603-604. The impact of fiscal and monetary policy upon employment, output and prices. An analysis of past and current economic controls and their impact upon the economy.

EC 653 Econometrics •

Prerequisites: EC 603-604, QA 604-605, or permission of the instructor. A presentation of the important statistical concepts used in econometrics. Topics covered are regression theory, multiple regression, regression extensions, correlation, serial correlation, correlated regressor and error, the identification problem, selected estimating techniques.

EC 658 Transportation Economics

Prerequisite: EC 603-604. A study of the principal economic problems arising in connection with the development and regulation of railroads and other modes of transport.

EC 660 Economic Development of Japan

Prerequisite: EC 603-604. A study in the modernization and economic growth of modern Japan since the Meiji Restoration (1869). Topics include the role of government and planning, and of foreign trade, investment

and technology; resource allocation, economic organization, capital formation, agricultural policies, population growth and social change.

EC 665 Urban and Regional Economic Development
Prerequisite: EC 603-604. Structure of the urban and regional economy; goals, processes, problems and policy in urban and regional economic development.

EC 670 Economics of Crime
Prerequisite: EC 603-604. Topics include the economic costs of crime; the costs of preventing crime; the impact of white collar crime on American society.

EC 673 Labor Legislation
Prerequisite: EC 625. Considers the legal status of unions as set forth in state and federal legislation and court decision. Reviews recent National Labor Relations Board rulings. Protective legislation dealing with wages, hours, child labor, and accident and unemployment compensation.

EC 687 Collective Bargaining
Prerequisite: EC 625. Emphasis on the negotiating process. The labor contract as it involves wages, worker security, management authority and handling of grievances arising during the life of the contract.

EC 690 Research Project
Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

EC 692 Readings in Economics

EC 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

EC 699 Thesis II
Prerequisite: EC 698. A continuation of EC 698, Thesis I.

Department of Electrical Engineering

EE 601 Engineering Analysis I
Application of multidimensional linear vector space concepts to the analysis and synthesis of engineering systems. Topics include matrices, linear transformations, orthogonality, function spaces and the resolutions of signals.

EE 602 Engineering Analysis II
Applications of the methods of complex variables and their analytic functions to engineering systems. Topics include analytic function theory, conformal mapping, transform methods and transfer functions.

EE 603 Discrete and Continuous Systems I

Prerequisite: EE 601. Discrete and continuous linear system models. State variable representation and transfer function representation. Feedback control systems, stability performance and design criteria. State variable and compensation synthesis. Nonlinear systems, describing functions and phase plane techniques. Stability methods of Liapunov.

EE 604 Discrete and Continuous Systems II

Prerequisite: EE 603.

EE 605 Modern Control Systems

Prerequisite: EE 604. Advanced topics in control systems. May include optimal control, dynamic programming, variational approaches, adaptive control, sampled data systems, signal modulated systems, random signal methods.

EE 608 Computer-Aided Design

Prerequisite: EE 601. Numerical algorithms for engineering systems analysis. The design problem and performance measures. Optimization of networks and filters. Parameter sensitivities. Device modeling and equivalent circuits.

EE 615 Computer Logic and Intelligence

Prerequisite: IE 603 (or equivalent). Introduction to logic elements and to their application in digital networks for processing numerical data. The course will deal with analysis and design techniques and will include the following topics: logic variables, switching functions, optimal realizations, Karnaugh maps and tabular procedures, multivariable systems. Detailed consideration of coding, parity bit redundancy and error detecting and correcting schemes will be presented. Design examples will include logic circuits for addition, multiplication, counting, parity generation and detection.

EE 630 Electronic Instrumentation I

Prerequisite: permission of instructor. Design of modern electronic instrumentation. Circuit and system examples, critical evaluation and design techniques. Emphasis on practical applications including design theory and the circuit techniques used in linear integrated devices. Variety of electronic instrumentation including computer interfaces, signal conditioners, waveform generators and shapers, filters, V/F, A/D, D/A converters and other special purpose circuits.

EE 631 Electronic Instrumentation II

Prerequisite: EE 630.

EE 634 Digital Signal Processing I

Prerequisite: EE 603. A study of the theories of digital signal processing and their applications. Topics include discrete time signals, Z transform, the discrete Fourier Transform, the FFT, digital filter design techniques, homomorphic signal processing and various applications of digital signal processing.

EE 635 Digital Signal Processing II

Prerequisite: EE 634.

EE 640 Computer Engineering I

A study of the structure and organization of PDP 11-10 computer. Operating system, peripheral devices, addressing memory, assembler instruction set, programmed requests, real-time software modules, assembler language programming.

EE 641 Computer Engineering II

Prerequisite: EE 640. Applications of computers to physical systems for monitor control functions. Interfacing using hardware modules. Case studies may include synchronous motor transient studies, shock wave phenomena, dynamic chemical reaction monitoring and control, signal processing, sampled data control systems. Students must complete a project.

EE 645 Power Systems Engineering I

Prerequisite: permission of instructor. Concepts and methods of analysis and design of modern power systems will be treated. This will include the network representation of power systems, matrix methods, symmetrical components and the use of the computer in the solution of problems such as short circuit fault calculations, load flow study, economic load dispatching and stability. Other topics may include protection, relaying or transmission system design.

EE 646 Power Systems Engineering II

Prerequisite: EE 645.

EE 650 Random Signal Analysis

A study of the theory of random signals and processes. Topics include a review of probability, random signals, auto and cross correlation, power density, spectral analysis of random signals, signal detection and estimation in noise.

EE 670 Microprocessors – Theory & Applications

Prerequisite: EE 640. A study of the techniques and methods of designing digital systems using a microprocessor as the basic unit. Micro-computer assembly language, operating systems, input/output devices, programmable read-only memories and interfacing. Students must complete a project.

EE 680 Special Topics – Electrical Engineering

Prerequisite: permission of instructor. A study of selected topics of particular interest to students and instructor. Course may be taken more than once.

EE 695 Independent Study I

Prerequisite: permission of instructor. A planned program of individual study or research under the supervision of a faculty member.

EE 696 Independent Study II

Prerequisite: EE 695.

EE 698 Thesis I

Prerequisite: completion of 15 credits of graduate work. Individual student project under supervision of faculty adviser. Written and oral report required. Student must enroll in 6 credits of thesis.

EE 699 Thesis II
Prerequisite: EE 698. Continuation of EE 698, Thesis I.

Executive M.B.A. Program

EXID 903 The Communication Process
Communication needs in corporate staff development: cohesion, cooperation, and consensus through effective communication management. The role of communication in thought processes and problem solving.

EXID 906 The Management Process
The role of executives and managers in administrative and operational processes. Topics include organizational goals and structure, planning and performance controls and resource management.

EXID 909 Business and Government Relations
Recent developments and future directions of the business and government interface. Includes contracts, affirmative action, labor negotiation machinery, regulatory agencies and anti-trust legislation.

EXID 912 Financial Accounting
Analysis of the objectives, standards and methods embodied in the financial accounting information system. Emphasis is upon financial reporting standards as they relate to financial position, results of operations and changes in financial position.

EXID 915 Quantitative Decision Making
Examination of statistical methods and their relevance to decision making under uncertainty. Includes an introduction to probability, elements of statistical decision theory and Bayesian analysis.

EXID 918 Managerial Economics
Application of economic analysis to business forecasting, planning and policy formation. Topics include cost-benefit analysis, cost estimation and break-even analysis.

EXID 921 Executive Development Seminar
Examination of a variety of methods of executive development. Role-playing, business games, sensitivity training and transactional analysis.

EXID 924 Financial Management I
Analysis of financial decision models for investment, financing and dividend decisions of the profit-oriented firm. Includes capital budgeting, capital structure and the cost of capital and dividend policy.

EXID 927 Financial Management II
Analysis of financial decision models for the management of working capital. The management of current assets and the related financing mixture.

EXID 930 Marketing Management

The marketing concept and corporate decision making with respect to product planning, advertising and promotion, sales management, distribution channels and price policies.

EXID 933 International Business Seminar

Examination of the theory of international trade, exporting and importing, cultural dynamics and comparative management and marketing systems.

EXID 936 Logistics and Distribution

The design, administration and control of product flows. The importance of total cost planning and alternate channel strategies.

EXID 939 Operations Research and Management

Analysis of management science techniques from the executive perspective. Focus on understanding the value of inventory and systems models, forecasting methods and simulation techniques.

EXID 942 Managerial Accounting

Examination of accounting tools for planning, controlling and evaluating the economic performance of the firm. Topics include budgeting, flexible budgets, standard costs, contribution reporting, responsibility accounting and decision analysis.

EXID 945 Human Resource Management

The effective management of the aggregate human resource in the modern organization. Analysis of personnel policies and procedures, manpower planning and employee training and policies.

EXID 948 Labor-Management Relations

Contemporary issues in labor-management relations are analyzed including collective bargaining, grievance-arbitration procedured and the expanding impact of organized labor on manpower management.

EXID 951 Marketing Management Seminar

Current issues and topics in marketing management. Includes recent regulatory rulings, consumerism and related areas.

EXID 954 Organizational Development

Various methods for effective organizational development in contemporary environments. Analysis of means to improve existing organizations in consideration of past history and changing value structures.

EXID 957 Corporate Policy and Strategy

Analytical frameworks are developed through the study of major corporate policies and strategies. Focus is upon the total organization and comprehensive operation procedures of the complex corporation.

EXID 960 The Executive Seminar

The capstone course of the program. Topics such as reducing executive stress, increasing effectiveness, the executive role in business and

society. The seminar format will be chosen by the participants.

Courses in Finance
Department of Accounting

FI 615 Finance
Prerequisites: EC 603-604, QA 604, A 600 or equivalent. The investment, financing and valuation of business firms. Topics include: discounted cash flow, return on investment, investment decisions under uncertainty, long- and short-term sources of funds, optimal financial structure, cost of capital, dividend policy, expansion, merger and failure and reorganization.

FI 617 Financial Institutions and Capital Markets
Prerequisites: EC 603-604, QA 604. This course stresses the relationship between the financial system and the level, growth, and stability of aggregate economic activity. Analyzes the institutional and theoretical structure of monetary change and the manner in which financial institutions and markets transmit and influence the impact of monetary policy. Special attention to the role of nonmonetary financial intermediaries, the structure and regulation of capital markets, and the functions of market yields as the price mechanism that allocates saving to various categories of economic investments.

FI 619 Monetary and Central Banking Policy
Prerequisites: EC 603-604, QA 604. The impact of monetary change upon employment, output and prices; the formulation and execution of Federal Reserve policy designed to regulate money, credit and interest rates.

FI 645 Corporate Financial Theory
Prerequisites: FI 615, FI 651. An analysis of the theoretical structure supporting optimum financial decision making by the business firm. Emphasis is placed upon the determination of the combination of investment, financing and dividend decisions that maximizes the valuation of the firm within a security market context.

FI 649 Security Analysis
Prerequisite: FI 651. An analysis of the determinants of valuation for fixed income securities, common stocks, convertible securities and common stock warrants. Emphasis is placed upon the information and techniques relevant to security valuation and selection and the structure and workings of the securities markets.

FI 651 Portfolio Management and Capital Market Analysis
Prerequisites: EC 603-604, QA 604, A 600 (or equivalent). Considers the theoretical structure for the procedures (security analysis, portfolio analysis and portfolio selection) which constitute the process of portfolio management, as well as their limitations in practice. Additional attention is placed upon the logical implications of portfolio analysis for capital market theory.

FI 655 Commodity Market Analysis
Prerequisites: EC 603-604, QA 604. A conceptual and operational

examination of the markets in which commodities are traded, the participants and major exchanges including an analysis of the major commodities traded and the factors influencing their prices.

FI 661 Real Estate: Principles and Practices

Prerequisites: EC 603-604, QA 604. Real estate from the investor's point of view. Impact of taxation on real estate investments. Emphasis on commercial land use through the use of case studies and problems.

FI 690 Research Project

Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

FI 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

FI 699 Thesis II

Prerequisite: FI 698. A continuation of FI 698, Thesis I.

Department of Hotel Management, Tourism and Travel

HM 610 Seminar in Hotel/Restaurant/Institutional Food Service Administration

Detailed analysis of recent developments in food service administration and food technology in hotels, restaurants and institutions.

HM 625 Supervisory Analysis

An incident approach is used to provide a cross section of small business situations that have faced hospitality-oriented management. Emphasis is given to particular situations involving leadership, organization, communication, ethical behavior and social responsibility.

HM 630 Personnel and Labor Relations in the Hospitality Field

Topics include organizational behavior, personnel selection, placement, supervision, job evaluation, wage and salary administration, motivation and union-management relations. Case studies and role playing are integral parts of the course.

HM 640 Executive Cuisine Development

An advanced course which covers current methods and principles of food preparation, variety and garnishment with emphasis placed on evaluation and preparation.

HM 655 Development of Hotel/Restaurant/Institutional Food Services

Examines the processes for developing profitable hotel, restaurant and institutional services. Some of the characteristics, opportunities, risks and decisions involved in starting hospitality and travel enterprises and institutional

foods services are studied.

HM 690 Research in Hotel/Restaurant/Institutional Food Administration
Independent study under the supervision of an adviser.

HM 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

HM 699 Thesis II
Prerequisite: HM 698. A continuation of HM 698, Thesis I.

Department of Humanities

COLLOQUIA:

HU 601-602 Themes in Western Thought and Culture: Greece, Rome,
Readings in primary sources of some of the classics in Western thought from Homer to the Renaissance. The place of these selected works in the development of Western ideas.

HU 606 Humanism and Its Methodology
A classic idea, work of art, musical composition, work of literature, historical event, and the variety of the critical appraisals of it.

HU 611 Historical Views and Views of History
A survey of modern Western Historiography with particular attention to the methodology of recent and contemporary historians.

HU 616 Art and Thought of the Renaissance
A study of the achievements of some of the major figures of the Renaissance in art, music, philosophy, natural science, literature, drama.

HU 621 The Age of the Enlightenment
Philosophical background of the Age of Reason and its effects upon the art, music, and literature of the period.

HU 626 The Age of Darwin
Scientific thought of the period and its effect upon religious and philosophical ideas, upon art and literature, and upon the development of sociological thought.

HU 631 Culture and Ethics in the Modern Age
Popular attitudes and rational concepts that determine the structure of contemporary America.

HU 636 Philosophical Thought
An examination of the changes in meaning and use of such enduring

themes as certainty, existence, God, justice, knowledge, law, right, good.

HU 641 Technology and Human Values
The influence of applied science and technology on our conceptions of ourselves, our society, and our environment.

HU 646 The Social Sciences in Our Time
How the social sciences are related to the humanities, estimates of the human condition in the light of developments in sociology, history, political science, psychology and economics.

SEMINARS

HU 651-689 Seminars
Study of a variety of current subjects and specialized areas of study within the designated field. Students may take more than one seminar in the same general area.

HU 651-659 Topics in Humanities

HU 661-669 Topics in History

HU 671-679 Topics in Philosophy

HU 681-689 Topics in the Natural, Physical and Social Sciences

HU 691-695 Independent Study
A planned program of individual study or research under the supervision of a member of the faculty.

HU 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

HU 699 Thesis II
Prerequisite: HU 698. A continuation of HU 698, Thesis I.

Courses in International Business
Department of Marketing

IB 643 International Business Operations
Prerequisites: EC 603-604. A summary of the economic, foreign environment and instructional concepts and constraints encountered by international business, and how they apply to decisions by managers of business operations and makers of official policy.

IB 644 Import and Export Business
Prerequisites: MK 609, IB 643. A managerial approach to international marketing; emphasis on controllable and uncontrollable variables affect-

ing marketing strategies, evaluation of foreign suppliers, methods of financing imports and exports, and documentation for import and export marketing.

IB 645 Structure of World Markets
Prerequisites: MK 609, IB 643. An intensive study of Asia, western and eastern Europe and South America as a complementary trade region for the United States firm. The area is surveyed as a present and potential market as well as an import source. Consideration is given to the historical and racial background of the people; their political, social and educational development; the resources and economic development of the countries in the area; and business practices unique to the area and its countries.

IB 651 Comparative Marketing
Prerequisites: MK 609, IB 643. A systematic study of the national and regional basis of socioeconomic conditions and of distributive business activities. The analysis of international similarities and differences in marketing functions, structures, processes, and factors as related to the physical, economic, political, social and cultural environments. The dynamic changes underway in marketing systems are also considered.

IB 652 Multinational Business Operations
Prerequisites: MK 609, IB 643. Managerial problems and strategies in foreign operations; structuring international operations through acquisition, licensing, or joint venture; the assessment of local competition; the impact of foreign environments; and legal, political and cultural problems facing the multinational firm in its relationship with its host countries.

IB 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

IB 699 Thesis II
Prerequisite: IB 698. A continuation of IB 698, Thesis I.

Department of Industrial Engineering

IE 601 Introduction to Operations Research/Management Science
Prerequisites: M 610, IE 607 or QA 604 or equivalent. Introduction to the techniques and philosophies of management science and operations research. Topics include linear programming, inventory analysis, queuing theory, dynamic programming, decision analysis and other management techniques.

IE 602 Quality Analysis
Prerequisite: IE 607. Concepts of quality control and statistical quality analysis. Sampling techniques and decision processes.

IE 603C Introduction to Digital Computers: COBOL
An introduction to the basic elements of computer science including computer hardware, software, information and data processing. Programming

concepts are introduced using COBOL, a common business-oriented language. A student who has taken IE 603F will not be given credit for IE 603C.
Laboratory fee required

IE 603F Introduction to Digital Computers: FORTRAN
An introduction to the basic elements of computer science including computer hardware, software, information and data processing. Programming concepts are introduced using FORTRAN, a common language that is well-suited for scientific and technical work. A student who has taken IE 603C will not be given credit for IE 603F.
Laboratory fee required

IE 604 Management Systems
Techniques of industrial and governmental systems management including general systems and organizational theory.

IE 605 Advanced Business Programming
Prerequisites: IE 603C or proficiency in language similar to COBOL. Advanced programming in COBOL or other business-oriented language within an applied business systems context. Laboratory fee required

IE 606 Advanced Technical Programming
Prerequisites: IE 603F or proficiency in a language similar to FORTRAN. Advanced programming in FORTRAN or other technically-oriented language with emphasis on scientific and technical applications.
Laboratory fee required

IE 607 Probability Theory
Prerequisite: M 610 or equivalent. Probability of events. Random variables and expectations; discrete and continuous distributions; important standard distributions and applications; moment generating functions; central limit theorem.

IE 608 Assembler Language
Description of the general functional characteristics of a computer's main storage and peripheral units. Interrupt philosophy and interrupt service routines. Discussion of the general philosophy of assembler instructions, code conversion of I/O to and from main memory and familiarization with appropriate reference manuals. Micro instructions will be introduced to allow for writing and running of assembler programs. Macro instructions will be developed to demonstrate techniques for reduced programming time.
Laboratory fee required

IE 610 Computer Systems Selection
Prerequisites: IE 605 or IE 606, IE 614. Techniques for selecting, installing, and operating computer systems and their peripheral equipment. Concepts of decisions with respect to compiler and hardware selection. Development of operating procedures, form design, systems charting and documentation.

IE 611 Budgeting and Control
Prerequisite: A 600. An analytic approach as applied to the principles and policies of operational budgeting and control of expense and capital in-

vestments. Includes forecasting techniques, development of totally integrated systems with traditional financial statements and controls from top management to first-line supervision.

IE 612 Managerial Interactions I

An interdisciplinary systems approach to human behavior in organizations with emphasis on the impact of industrial engineering methods on organizational performance. The first course will deal with individual motivation and face-to-face interaction in managerial roles; the second concentrates on organizational development, job enrichment, and modern work attitudes.

IE 613 Managerial Interactions II

Prerequisite: IE 612.

IE 614 Data Information Systems

Prerequisites: IE 603 or equivalent, IE 604. Introduction to automated information systems planning and operations and their impact on management decision making, control functions and communication capabilities. An overview of concepts and procedures with applications in urban environments, large organizations and governmental agencies. Techniques presented include PERT/CPM, Gantt charting, cost-benefit analysis.

IE 615 Transportation and Distribution

Prerequisite: IE 601. Introduction to transportation science with emphasis on physical distribution problems. Survey of operations research models and optimization strategies and their roles in transportation systems management.

IE 619 Enterprise Design and Evaluation

Prerequisite: IE 601. An analysis of the principles and methods used in estimating the probable economic characteristics of proposed enterprises. The student is required to formulate a proposed enterprise, including the technical, financial and organizational requirements.

IE 621 Linear Programming

Prerequisites: M 610 or equivalent, IE 601 or equivalent. Thorough coverage of the techniques and applications of linear programming, a powerful operations research tool for optimal allocation of limited resources in linear systems.

IE 622 Queuing Theory

Prerequisites: IE 601, IE 607. Elements of queuing theory including finite and infinite cases. Single server and multiple server parallel channels, series queues and special cases are analyzed. Experimental methods, including simulation, are presented in the context of industrial environments.

IE 623 Decision Analysis

Prerequisite: QA 605 or IE 607. Decision theory, game theory, and stochastic decision processes. Benefit-cost analyses under uncertainty.

IE 631 Production Engineering

Prerequisites: IE 601, IE 602. An analysis and practical application of engineering activity that results in the transformation of natural resources into a finished product.

IE 641 Quality Control Economics
Prerequisites: IE 602, IE 607 or QA 604. An economic managerial analysis of statistical quality control sampling and control chart systems with application to accepted and hybrid systems.

IE 643 Reliability and Maintainability
Prerequisites: IE 602, IE 607 or QA 604. The basic theory and methodology of reliability and maintainability, including application of discrete and continuous distributions and statistical designs. Reliability, estimation, structure models and growth models.

IE 651 Human Engineering I
A broad coverage of the physiological, psychological, and sociological aspects of man and the society in which he lives and works. Special topics include human factors, motivation, group dynamics and ekistics.

IE 652 Human Engineering II
Prerequisite: IE 651.

IE 655 Value Engineering
Consideration of value analysis from the point of view of design, manufacturability, procurement, installation and maintainability in order to optimize value in products.

IE 670 Current Topics in Computer and Information Science
Prerequisites: IE 601, IE 603, or permission of the instructor. An examination of new developments or current practices in computer and information science. A topic will be selected for thorough study; possible subject areas include data structures, recent hardware or software advances, specialized applications.

IE 671 Current Topics in Operations Research
Prerequisites: IE 601, IE 607, or permission of the instructor. An examination of new developments or current practices in operations research. A topic will be selected for thorough study; possible subject areas include nonlinear programming, network theory, scheduling techniques, specialized applications. Content may vary from semester to semester.

IE 672 Current Topics in Industrial Engineering
Prerequisite: IE 601 or permission of the instructor. An examination of new developments or current practices in industrial engineering. A topic will be selected for thorough study; possible subject areas include reliability, production engineering, human factors, specialized applications. Content may vary from semester to semester.

IE 675 Special Studies
Prerequisite: permission of the program coordinator. Independent study under the guidance of an advisor into an area designated by the program coordinator.

IE 681 System Simulation
Prerequisites: IE 601 or equivalent, IE 606 or equivalent. A study of the behavior of systems using computer simulation models of their organiza-

tional structure and decision criteria. Laboratory fee required

IE 682 Compiler Design

Prerequisite: IE 605 or IE606 or permission of the instructor. Design and operation of assemblers and macroprocessors. Introduction to compiler design. Metalanguage. Lexical and syntactic analysis. Interpretative systems. Control of translation, loading and execution. Relocating loaders and overlay generation. Symbolic coding systems.

IE 683 Systems Analysis

Prerequisites: IE 601 or QA 605, IE 614. Techniques and philosophies defining the concept of systems analysis are presented in detail and illustrated with large scale case studies. Diverse systems are analyzed covering the social, urban, industrial and military spheres. Techniques presented include utility theory, decision analysis, and technological forecasting.

IE 684 Multiprogramming Systems

Prerequisite: IE 605 or IE 606 or permission of the instructor. Topics in the areas of operating systems and computer architecture. Multiprogramming and multiprocessor systems. Dynamic storage allocation and virtual memory systems. Time-sharing systems. On-line, real-time systems.

IE 685 Theory of Optimization

Prerequisites: calculus, IE 603F or equivalent. Nonlinear and dynamic programming with special reference to computer analysis of optimization problems.

IE 686 Inventory Analysis

Prerequisites: IE 601, IE 607 or QA 605. Inventory theory and practical applications in operating inventory systems. Model construction, optimization and computer simulation.

IE 688 Design of Experiments

Prerequisite: IE 689 or three credit hours of statistical inference. Principles of modern statistical experimentation and practice in use of basic designs for scientific and industrial experiments; single factor experiments, randomized blocks, latin squares; factorial and fractional factorial experiments; surface fitting designs.

IE 689 Descriptive and Inferential Statistics

Prerequisite: IE 607 or equivalent. Inferential statistical designs, including basic statistical tests and analysis of variance. Statistical theories and applications of correlation analysis, multiple linear regression, nonlinear regression, and analysis of covariance.

IE 690 Seminar Project

Prerequisites: 15 credit hours and permission of the program coordinator. Independent study under the guidance of an adviser into an area of mutual interest, such study terminating in a technical report of academic merit. Research may constitute a survey of a technical area in industrial engineering, operations research or computer science, or may involve the solution of an actual or hypothetical technical problem.

Courses in Business Law
Department of Accounting

LA 673 Business Law I: Contracts and Sales
Survey of the legal aspects of contracts and the results of contractual obligations. Legal problems stemming from the distribution of goods; generally the rights and duties of buyers and sellers and the remedies available to them.

LA 674 Business Law II: Business Organizations and Negotiable Instruments
Basic introduction to problems of formation and operation of legal groups and general legal survey of the role of agency, partnerships and corporations and other complex entities in modern society.

Department of Mathematics

M 610 Fundamentals of Calculus and Linear Algebra
Prerequisite: M 115 or equivalent. Review of algebra. Topics from calculus, including differentiation and integration methods, infinite series, and Taylor series. Linear algebra, systems of linear equations and matrix methods.

M 620 Numerical Analysis
Prerequisite: 9 credit hours of calculus and programming ability in FORTRAN. Algorithms for obtaining numerical solutions on computers. Topics include: solution of nonlinear equations by iterative methods, matrix inversion, evaluation of determinants, solution of systems of linear equations by direct and iterative methods, numerical integration, differentiation and solution of differential equations by finite difference methods.

M 624 Applied Mathematics
Topics in applied mathematics including ordinary and partial differential equations, linear analysis and boundary value problems.

Department of Mechanical Engineering

ME 602 Boundary Value Problems
Solution techniques involving boundary values to physical systems. Special functions, orthogonality, eigenvalue problems.

ME 603 Approximation Methods
Prerequisite: ME 602. Techniques for realizing engineering solutions to complex systems. Asymptotic expansions and perturbation methods among topics.

ME 604 Numerical Methods
Prerequisite: knowledge of FORTRAN. Quantitative techniques adaptable for computer solutions to engineering problems. Curve fitting,

transcendental equations, simultaneous equations and numerical integration and differentiation.

ME 610 Advanced Dynamics

Kinematics and dynamics of particles and systems of particles. Lagrange's equations. Hamilton's principles and canonical transformation theory. The inertia tensor and rigid body motion.

ME 611 System Vibrations

Advanced techniques for analysis of vibrations in mechanical systems. Multiple degrees of freedom, random noise inputs among topics.

ME 615 Theory of Elasticity

Cartesian tensor notation, integral theorems, orthogonal curvilinear coordinates. Stress tensor, dynamical conservation equations, isotropy and anisotropy. Boussinesq-Popkovitch potentials. Wave equations.

ME 620 Classical Thermodynamics

Phenomenological equilibrium and nonequilibrium thermodynamics. Formulation and application of fundamental laws and concepts, chemical thermodynamics.

ME 622 Statistical Thermodynamics

Prerequisite: ME 620. Development of methods of statistical thermodynamics within the framework of the molecular theory of matter. Presentation of the role of spectra and intermolecular forces in the interpretation of thermodynamic properties of ideal systems, gases, solids and plasmas.

ME 625 Mechanics of Continua

Prerequisite: ME 615 or permission of the instructor. Tensor analysis, the stress vector and the stress tensor, kinematics of deformation, material derivative, fundamental laws of continuum mechanics, conservation theorems, constitutive laws, and representative applications.

ME 627 Plasticity

Study of permanent deformation of metals and non-metals. Topics to include yield surfaces, creep, theories of fracture and time dependent effects.

ME 628 Modern Engineering Materials

Survey of the forefront of current engineering materials and processing techniques. Representative topics might include composites, superalloys, laser fabrication and continuous casting techniques.

ME 630 Advanced Compressible Fluid Flow

Properties of gases at high temperatures. Gas flows involving ionization and chemical reactions. High-speed and nonsteady flows. Plasma flows.

ME 632 Advanced Heat Transfer

Review of the basic concepts of conduction and radiation. Detailed treatment of laminer, turbulent, free and forced convectional flows. Computational projects.

ME 635 Advanced Turbomachinery
Prerequisite: ME 630. Design and analysis considerations of modern turbomachinery. Projects requiring computer-aided analysis and design based on recently published information.

ME 640 Combustion
Prerequisite: ME 630. Introductory statistical thermodynamics and physical properties of gases, chemical reactions in gases, combustion phenomena, aerodynamics of flames, and detonation phenomena. Design considerations of combustion chambers and burners, and associated instabilities.

ME 645 Computational Fluid Dynamics and Heat Transfer
Prerequisite: ME 630; corequisite: ME 604 or M 620. Current methods of computer solutions of the conservation equations of fluid dynamics. Viscous, uncompressible, compressible and shocked flows. Real gas equations of state. Computer projects.

ME 660 Advanced Design Philosophies
Open to advanced students. Seminar series on state-of-the-art techniques including objectives and philosophies of design. Guest lectures by recognized industrial experts. Complete design project required of all students.

ME 675 Special Studies
Prerequisite: permission of program coordinator. Independent study under the guidance of an adviser into an area designated by the program coordinator.

ME 680 Special Topics – Mechanical Engineering
Prerequisite: permission of the instructor. A study of selected topics of particular interest to students and instructor. Course may be taken more than once.

ME 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

ME 699 Thesis II
Prerequisite: ME 698. A continuation of ME 698, Thesis I.

Department of Management Science

MG 625 Systems Techniques in Business Administration
An integrated study of the techniques for solving administrative problems, including the analysis and improvement of organizational structures, office procedures, forms design, records management, reports and equipment standards. The conduct of a comprehensive systems survey using these techniques is explored in depth as are flow charting and the preparation of manuals.

MG 633 Managerial Economics
Prerequisites: EC 603-604, QA 604-605. A study of the applica-

tion of the major tools of economic analysis to the problems encountered by management in the organization of the firm. Topics include the theory and measurement of consumer demand, measurement and control of costs, the effects of public policy upon managerial decisions and pricing techniques and the allocation of capital within the firm.

MG 637 Management

A survey of the literature of management theory. Based on a wide range of independent reading, the student is provided the opportunity to analyze and assess the contribution by major writers in the field of management theory.

MG 638 Cost Benefit Management

Prerequisites: QA 604, EC 603. This course will provide students with an introduction and overview to the field of cost/benefit management. Fundamental theoretical evaluation of cost/benefit of a project will be covered. Other topics discussed include: the selection of the best investment criteria, the external environmental spillover effects, and the application of cost/benefit management in decision making under uncertainty.

MG 641 Contract Administration

Prerequisite: QA 600 or equivalent. The administrative aspects of the contract, modification, evaluation, and sub-contracting. Importance is given to value analysis as it effects government property and affects by action of the contractor and the government. Other issues are covered such as financial and pattern rights.

MG 650 Venture Management

Prerequisites: A 621, FI 615, MG 637, MK 609, or permission of the instructor. Deals with the establishment of a new business venture, covering such topics as site development, market analysis, staffing, inventory control, personnel relations and funding.

MG 653 Seminar in Managerial Economics

Prerequisite: MG 633 or permission of the instructor. Application of managerial economics to selected problems encountered in management of the corporation such as evaluation of costs, returns on alternative investment policies and pricing plans. Problems of implementation covered through analysis of broad range of cases where uncertainty has major bearing on managerial decisions. Application and use of economic tools such as forecasting, capital investment analysis and risk analysis are part of this structure.

MG 660 Comparative Management

Prerequisite: MG 637. The main focus of this course is to develop an understanding of managerial practices in different organizations and systems. A conceptual framework is developed for the analysis of interaction between managerial processes and cultural factors as they affect the management of enterprises in various organizations and systems.

MG 661 Development of Management Thought

Prerequisite: MG 637. Study of the literature from various disciplines in order to determine the thinking and practices of leaders of organizations, past and present. The historical perspective of management thought will be

developed. The contributions of religion, philosophy, economics, sociology and psychology to management thought and practice will be examined. Emphasis on pioneering works in the management of organizations. Case studies of the thinking and practices of famous leaders of American business enterprises.

MG 662 Organization Theory

Prerequisite: MG 637. A survey of the literature on theories of organization with emphasis on contemporary theories. Application of the theories to management and organizational problems will be attempted. Difficulties arising between theory and practice will be examined.

MG 663 Leadership in Organizations

Prerequisite: MG 637. Examination of theories and research findings from the behavioral sciences that are relevant to leadership in organizations. The role of the leader within the organization; the prerequisites, knowledge and practices required for successful leadership will be studied. Programs for the development of leaders will be explored.

MG 664 Organizational Effectiveness

Prerequisite: MG 637. Identification of the criteria necessary for developing and maintaining effective organizations. A study of the concepts that may be utilized in the management of these criteria. Approaches that may be utilized in developing managers in the use of these concepts will be examined and applied to problem situations through cases and role playing.

MG 669 Business Policy and Strategy

Prerequisites: MG 637 and 3 credit hours of 600-level MG course work. Management policies and strategies for the complex organization operating in a dynamic environment are examined from the viewpoint of the top-level executives of the organization. Develops analytical frameworks for the management of the numerous elements involved in assuring the fulfillment of the goals of the total organization. Integrates the student's general business knowledge with the required courses in the M.B.A. program. Emphasis is placed on the development of oral and written skills by the examination and discussion of cases.

MG 678 Personnel Management Seminar

Prerequisites: MG 637, P 619 & EC 625. A seminar in the personnel and manpower management function of the modern work organization. The use of an integrated behavioral, quantitative, and systems approach permits an applied multidisciplinary synthesis of the various aggregate manpower management subsystems required in the modern work organization.

MG 679 Industrial Relations Seminar

Prerequisites: MG 637, P 619, EC 625 & EC 687. A seminar in industrial relations and the labor-management relations function of the modern work organization. The use of an integrated behavioral, economic, and legal approach permits an applied multidisciplinary synthesis of the employee relations function required in either non-unionized or unionized work organizations.

MG 680 Current Topics in Business Administration

Prerequisite: 15 graduate hours or permission of the instructor. An

integrative course that will examine the role of business in society and relate the business firm to its social, political, legal and economic environment. While the exact content of this seminar is expected to vary from semester to semester in accordance with the varied academic interests and professional backgrounds of different faculty handling the course, the basic theme is the role of the business firm as the "keeper" of the market mechanism and the means for organizing resources in the economy.

MG 685 Research Methods in Business Administration
Designed to familiarize administrators with the tools and potentialities of social research and to assist them in the presentation, interpretation and application of research data.

MG 690 Research Project
Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

MG 695 Readings in Management
A seminar. Examines the literature in selected areas of management.

MG 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

MG 699 Thesis II
Prerequisite: MG 698. A continuation of MG 698, Thesis I.

Department of Marketing

MK 609 Marketing
Prerequisites: EC 603-604. An intensive study of modern marketing fundamentals, a study of the decision-making problems encountered by the marketing executive and the relation of marketing to environmental forces.

MK 616 Analysis of Buyer Behavior
Prerequisite: MK 609. An examination of the principal comprehensive household and organizational buyer behavior models and the behavioral science theories upon which such applied models are based. The buyer is analyzed at the individual level, at the social level and at the organizational level.

MK 639 Marketing Research and Information Systems
Prerequisites: MK 609, QA 605. A managerial approach to marketing information flow, including recognition of information needs and an overview of marketing research as part of an information system. Special attention to evaluation of research design and measurement methods, effective utilization of research output, and problems encountered in establishing a marketing information system.

MK 641 Marketing Management

Prerequisite: MK 609. The treatment of the basic decision problems of marketing management in terms of a conceptual framework for analysis. Consideration of the role played by human judgments and the mathematical tools available to aid in these judgments in a number of marketing areas, notably market analysis, pricing decisions, advertising decisions, promotional decisions and selection of distribution channels.

MK 643 Product Management

Prerequisite: MK 609. The search for new product ideas and their evaluation; the organization structure necessary to the development and introduction of new products and the management of a product line; the commercial aspects of product design, packaging, labeling and branding; considerations involved in making product deletion decisions; and the social and economic effects of managing product innovation.

MK 644 Consumerism

Prerequisite: MK 609. An analysis of the evolution of the consumerist movement; how and why it has developed; government agencies dealing with consumer problems; the impact of various market structures on the consumer; the impact of consumer-oriented legislation on marketing strategies; and the responsibility of business to the consumer and to society.

MK 645 Distribution Strategy

Prerequisite: MK 609. Analysis of channel strategies; theory and economic justification of distribution channels; direct and indirect methods of control; behavioral states of channel members; costing the channel; and management of changes in distribution.

MK 680 Marketing Workshop

This course is centered around a structural model of a business firm. The major objective is to provide the student with an opportunity to develop managerial insights and skills in dealing with marketing problems in a competitive environment. Each of the participants is grouped into decision-making units (companies) and assumes the role of a marketing executive operating a business firm. These executives will be responsible for planning, organizing, staffing, directing and controlling their firm's resources.

MK 690 Research Project

Prerequisite: 15 graduate hours and permission of the instructor. Independent study under the supervision of an adviser.

MK 695 Readings in Marketing

MK 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

MK 699 Thesis II

Prerequisite: MK 698. A continuation of MK 698, Thesis I.

Department of Psychology

P 605 Survey of Community Psychology

An examination of historical roots and current concepts. A social-problems approach to psychological dysfunction. Changing professional roles. Community organization and human service delivery; strategies of intervention and community change.

P 606 Seminar in Organizational/Industrial Psychology

Prerequisite: P 619. An examination of the professional psychologist at work in organizations. Emphasis on measurement methods, prediction, validation, selection, training, performace appraisal. Practitioners in businesses, industry, research organizations and government will provide insights into the application of psychological principles and methods.

P 607 Special Problems in Community Psychology

Problems of particular relevance to the Connecticut area community consultation and education. Human service issues in this geographic area.

P 609 Research Methods

Introduction to analytic concepts pertinent to sampling techniques, research design, variable control and criterion definition. Basic problems of measurement, research paradigms, sources of error in research interpretation, problems of variable identification and control, and consideration of the logic of inference.

Field Experience and Practicum Seminars

An apprenticeship or on-the-job role in an ongoing program or center. Emphasis on developing conceptualizations and insights as a result of involvement in the apprenticeship. Placement at a field site for 8 to 10 hours per week. Weekly class meetings serve two purposes: to present specific theoretical material and research findings appropriate to each seminar; and to allow students to discuss their field training experiences.

P 611 Field Experience & Practicum Seminar I: The Dyadic Relationship

Content focuses upon one-to-one relationships in community psychology. See general description above.

P 612 Field Experience & Practicum Seminar II: Models of Consultation

Content focuses upon community consultation. See general description above.

P 613 Field Experience & Practicum Seminar III: Systems Invervention

Content focuses upon intervention into and change in community systems. See general description above.

P 618 Community Mental Health Philosophy and Concepts

Considerations of the philosophical bases which underlie traditional approaches to mental health. A study of the implied cultural values and attitudes which have determined the locations, the settings, the methods and the objectives of mental health treatment concepts, programs and techniques.

P 619 Organizational Behavior

Analysis of various theories of business and managerial behavior emphasizing the business organization and its internal processes. Psychological factors in business and industry, including motivation, incentives and conflict. A study of research findings relevant to an understanding and prediction of human behavior in organization.

P 620 Industrial Psychology

Psychological theories and research applied to business and other organizations. Problems and methods in selection and placement, training, performance appraisal, motivation and leadership.

P 621 Behavior Modification

Theory and research in behavior modification. Aversive learning, desensitization, operant conditioning. Applications in clinical and nonclinical settings.

P 623 Psychology of the Small Group

Analyses of the behavior and interaction of people in mutual gratification groups, committees, work groups and clubs.

P 625 Advanced Psychology of Human Development

In-depth exploration of development through the life cycle and the developmental impact of family, neighborhood, schools, work, class, race, sex, etc.; key theoretical concepts; research findings; community intervention.

P 627 Attitude and Opinion Measurement

Prerequisite: P 609. Examination of modern methods of attitude and opinion measurement. Scale, schedule, and interview formats. Respondent sets. Consideration of sampling problems.

P 628 The Interview

The interview as a tool for information-gathering, diagnoses, mutual decision making and behavior change. Use of role playing provides the student with insights into nuances of interpersonal relationships. Applications to selection, counseling and other situations.

P 629 Introduction to Counseling

The roles of the client and the counselor in the counseling relation. Examination of underlying assumptions.

P 630 Psychology of Personality

Major personality theories and their implications. Examination of the psychological and organic factors involved in personality development and expression.

P 631 Social Psychology

Current problems in social psychology. Attitude scale construction, attitude change, language as a social phenomenon, patterns of culture, social class, groups, person perception and conformity.

P 632 Group Dynamics and Group Treatment

An exploration of the emerging area of group dynamics. The structure

of groups, their development, process interaction analysis, formal and informal groups, group psychotherapy and sensitivity training.

P 633 Problems of Drug Abuse
Discussion of selected issues and current problems in drug abuse.

P 634 Personality Assessment
A critical survey of the theories and issues of personality assessment. Topics include intelligence, achievement and ability assessment. Personality tests and ethical questions associated with psychological testing.

P 635 Assessment of Human Performance with Standardized Tests
Prerequisite: P 609. Theories, assumptions and constraints underlying construction and application of standardized tests employed in clinical, educational, governmental and industrial settings. Emphasis on selection of appropriate standardized tests for specific applications.

P 636 Abnormal Psychology
Etiological factors in psychopathology dynamics and classification of neuroses, psychophysiologic conditions, psychoses, personality disorders, organic illness, retardation and childhood diseases.

P 638 Psychology of Communication and Opinion Change
Characteristics of the source, the situation, and content of messages, along with other variables influencing attitudinal modification. Cognitive factors and social settings in attitude change.

P 640 Industrial Motivation and Morale
Prerequisite: P 619. The meaning of work; theories of motivation. Stimulus deprivation and expectation of reinforcement; job satisfaction and motivation; pay as an incentive; interventions to increase work motivation. Case studies.

P 642 Organizational Change and Development
Prerequisite: P 619. The nature of organization development, intervention by third-party consultation, change in organization structure and role relationships, managerial grid, participation, conformity and deviation.

P 650 Ecological Psychology
An in-depth study of the relationship between molar human behavior and the sociophysical settings in which it occurs. Human behaviors are conceptualized as adaptive responses to environmental systems that provide their contexts. Particular emphasis will be placed on the ecological match between human service organizations and their clients. Class seminars will alternate with on-site study of human service agencies.

P 660 Contemporary Issues in Organizational/Industrial Psychology
Prerequisite: 12 hours in psychology or consent of the instructor. In-depth investigation of topical areas of concern in organizational/industrial psychology. Topics may include, but are not limited to, the impact of EEOC regulations on selection and promotion; assessment centers; the role of the consultant in organizations; flex-time, day care, and other strategies to accommodate family needs of employees; stress in work settings; women in manage-

ment. Content will be stated at the time the course is scheduled. Students may petition for a particular topic they feel would fit their academic goals. May be taken twice.

P 670 Program Evaluation in Community Psychology
Prerequisite: P 609. A systematic study of the processes involved in planning, implementing, and evaluating social service programs. The focus is on action research strategies which integrate the entire process from planning and grant application to the evaluation of the program.

P 672 Psychology of the Middle and Later Years
A comprehensive consideration of the psychological aspects of the aging process. Sensation, perception, cognition, intelligence, problem-solving, memory and sexuality, personality changes. Disengagement, rigidity. Death and its anticipation.

P 677 Individual Intensive Study
Prerequisite: completion of required courses or 24 graduate hours and written approval of departmental chairman. Provides the graduate student with the opportunity to delve more deeply into a particular area of study under faculty supervision.

P 678 Practicum I
For students already employed in a managerial or supervisory role. A job-related research project is carried out under faculty supervision.

P 679 Practicum II
Prerequisite: P 678.

P 693 Organizational Internship I
For students without experience at the managerial or supervisory level. Under faculty supervision, the student engages in field experience in an industrial setting.

P 694 Organizational Internship II
Prerequisite: P 693.

P 698 Thesis I
Prerequisite: completion of all required courses or 24 graduate hours and written approval of departmental chairman. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

P 699 Thesis II
Prerequisites: P 698, written approval of departmental chairman. A continuation of P 698, Thesis I.

Department of Public Administration

PA 601 Principles of Public Administration
The development, organization, functions and problems of national,

state, and local governmental administration.

PA 602 Public Policy Formulation and Implementation

Recommended prerequisites: PA 601, EC 608, PA 604, PA 611. The relationship between public administration and the formulation of public policy is studied. The implementation of public policy by administrators based on the politics of the administrator is examined in terms of interaction between various group representatives, i.e., the legislators, the politician, and pressure group leaders.

PA 603 Natural Resources Administration

Growth of the concept of conserving and developing natural resources and its translation into public policy. Organization of the interrelationships among the principal resource administration agencies; the coordination of resource programs, national, state and local.

PA 604 Seminar in Communities and Social Change

Interactions among the community as a social organization and education, police and welfare institutions within it; special attention to conceptual frameworks and current research or action programs that particularly affect minority groups.

PA 605 The Communication Process

Major emphasis on the role of communication in a democracy and the effects of communication content. Brief treatment of content analysis techniques, person-to-person communication and barriers to the flow of communication.

PA 611 Research Methods in Public Administration

Designed to familiarize administrators with the tools and potentialities of social research, and to assist them in the presentation, interpretation and application of research data.

PA 620 Personnel Administration and Collective Bargaining in the Public Sector

Recommended prerequisites: PA 601, EC 608, PA 604, PA 611. Study of the civil service systems in the United States and the state governments, including a systematic review of the methods of recruitment, promotion, discipline, control and removal.

Explores the effects on work relationships of collective bargaining statutes which have been adopted by legislatures. Emphasis is placed on Connecticut's collective bargaining statutes.

PA 625 Administrative Behavior

Recommended prerequisites: PA 601, EC 608, PA 604, PA 611. The problems faced by an administrator in dealing with interpersonal relationships and human processes. Analysis of individual and group behavior in various governmental and business settings to determine the administrative action for the promotion of desired work performance. Emphasis given to the public sector. Participation in actual problem situation discussions and case studies.

PA 630 Governmental Accounting

Recommended prerequisites: PA 601, EC 608. A comprehensive survey of the essential principles of governmental accounting, budgeting, cost accounting, and financial reporting. The various operating funds, bonded debt, fixed assets, investments, classification of revenue and expenditures, general property taxes and interfund relationships.

PA 632 Public Finance and Budgeting

Recommended prerequisites: PA 601, EC 608, PA 604. State and local expenditure patterns, state and local revenue sources, income taxation at the state and local level, excise taxation, sales taxation, taxation of capital and the property tax. Emphasis on fiscal and economic aspects of federalism and federal-state fiscal coordination. The role of the budget in the determination of policy, in administrative integration, in control of government operations.

PA 633 Financial Administration

Recommended prerequisites: PA 601, EC 608, PA 604. Seminar on selected aspects of public financial administration including revenues, accounting, expenditures, public debt, special funds and auditing.

PA 634 Problems of Municipal Management

Recommended prerequisites: PA 601, EC 608, PA 604. Study of selected problems of city management with emphasis on "housekeeping" and line operations.

PA 635 Statistics for Public Administrators

Provides a basic theoretical treatment of the nature of statistical analysis and its role in economic research design and procedure.

PA 639 Seminar in Public Sector Procurement

General policy and regulatory aspects; contracting; organizing for procurement and materials management; managing and controlling the procurement process; and innovations in public procurement.

PA 640 Purchasing

Current innovative techniques used in purchasing. Emphasis on warehousing, storage, inventory control and cooperative purchasing plans.

PA 641 Institutional Budgeting

Recommended prerequisites: PA 601, EC 608. Budgeting as an institutional planning tool, as a cost control device and as a program analysis mechanism. Attention is given to the salary expense budget, the revenue budget, the capital budget and the cash budget.

PA 642 Health Care Delivery Systems

This course deals with a comparative analysis of health care delivery systems and the application of systems analysis and design concepts for designing and evaluating health care delivery systems.

PA 643 Health and Institutional Planning

Designed to develop skills and understanding of the dynamics of health and social planning processes with respect to consumer demand, na-

tional and local health goals and the optional location of facilities, services and manpower.

PA 644 Administration of Programs and Services for the Aged

The structure, function and properties of publicly and privately funded programs and service organizations providing health services to the aged. The economic, political, legal and social issues which affect the administration of human service organizations will be studied, with emphasis on administration of health care services.

PA 645 Health Care Economics and Finance

Recommended prerequisite: PA 641. This course integrates the accounting, economics, finance, budgeting, and health insurance principles, concepts and analytical tools which are essential to the decision-making processes of health care organizations.

PA 647 Zoning and Land Subdivision Regulation

Recommended prerequisite: PA 660. Ordinance structure and planning theory as expressed in texts of ordinances. Selected court cases.

PA 650 Administrative Law

A search for principles and criteria against which public interest can be balanced with private right in the changing patterns of government, with particular reference to the American system.

PA 660 Urban Planning: Theory and Practice

Recommended prerequisites: PA 601, EC 608, PA 604, PA 611. Explores the concept of physical planning within the urban developmental framework. The function of planning in its relationship to the environment. Comprehensive planning with its many ramifications involving the various sections of our society. Methods for analyzing problems as well as design methods for problem solving.

PA 661 Problems of Metropolitan Areas

Analysis of the problems of government and administration arising from the population patterns and physical and social structures of contemporary metropolitan communities.

PA 662 Environmental Design

A nontechnical introduction to the physical sciences of ecology and the principle areas of pollution. Industry problems of pollution control and effects of recent legislation will be explored to show how decisions of society affect our environment.

PA 663 Urban Housing

Encompassed are the subjects of housing management, planning, finance and policy. Specific topics such as the provision of low-income housing, the use of mortgage insurance, interest subsidies, site planning, rent controls, code enforcement, mortgage markets, and the rise of housing abandonment are stressed.

PA 665 Systems Analysis in the Municipal Sector

Recommended prerequisites: PA 601, EC 608, PA 604, PA 611.

Introduction to the philosophy and techniques of systems analysis and their application to local government. Topics covered include systems definitions, effectiveness and worth measures, systems simulation concepts and systems redesign for optimal performance.

PA 671 Administrative Problems
Exploration of the practical experiences and problem-solving situations in the day-to-day activities of a public administrator.

PA 680 Seminar in Public Administration
Recommended prerequisites: PA 601, EC 608, PA 604, PA 611. Exact material to be covered will be announced.

PA 690 Research Project I
Prerequisites: 15 graduate hours, permission of the public administration graduate program coordinator. Independent study for advanced graduate students on selected problems in public administration.

PA 691 Research Project II
Prerequisites: 15 graduate hours, permission of the public administration graduate program coordinator. Independent study for advanced graduate students on selected problems in public administration.

PA 693 Public Administration Internship
Prerequisites: 15 graduate hours, permission of the public administration graduate program coordinator. A supervised work experience in a cooperating public service agency. Students must be available for at least one day per week.

PA 695 Readings in Public Administration
Prerequisite: 15 graduate hours or permission of the instructor.

Department of Physics

PH 680 Special Topics – Physics
Prerequisite: permission of the instructor. A study of selected topics of particular interest to students and instructor. Course may be taken more than once.

Department of Political Science

PS 601 Constitutional Law
A study of the relation of the judicial process and constitutional law to the political process in the United States. Judicial review, federalism and separation and delegation of powers.

PS 602 Civil Liberties and Rights
An analysis of civil liberties, civil rights, due process, and equal pro-

tection of the law. An examination of the role of the public official in the protection, denial or abridgement of the constitutional and legal rights of individuals.

PS 603 International Law

A study of the role of international law in the modern state system with particular reference to individuals; territorial jurisdiction; law of the sea, air and space; and the development of law through international organizations.

PS 605 Criminal Law

Scope, purpose, definition and classification of criminal law. Offense against the person; habitation and occupancy. Offenses against property and other offenses. Special defenses. Emphasis on the Connecticut penal code.

PS 608 The Legislative Process

An analysis of the legislative process in the American political system. Stress will be placed on legislative politics in state and local government. Among areas covered will be legislative functions, selection and recruitment of legislative candidates, legislative role orientations, the legislative socialization process, the committee system, the legislators and their constituencies, legislative lobbyists, legislative decision making, legislative-executive relations and legislative organization and procedures.

PS 616 Urban Government and Politics

An examination of the urban political system. Stress will be placed on the political aspects of urban government structures. Among the areas covered will be formal and informal decision making in urban government, community power structures, types of urban government structures, the politics of intergovernmental relations and the politics of servicing the urban environment (social services, planning agencies, education, housing, transportation, health, pollution control and ecology, revenue sharing, public safety, neighborhood corporations, etc.).

PS 626 Decision Making in the Political Process

An in-depth study of decision making in the American system with special emphasis upon the various types of mechanisms, i.e., executive, legislative, judicial, bureaucratic, organizational and military. The influence of intelligence, economic and psychological factors and social pressures upon decisions and decision makers will be examined.

PS 628 Change and Government

A study of the major processes of change and their consequences for the functioning of government. The course will concentrate upon changes that may occur through violence, evolution or technology, and which may alter the effective operation of government.

PS 633 The Political Process and the Aged

A study of the political process as it relates to the aged. Governmental decision making on Federal, state and local levels including legislation and its implications.

PS 641 The Politics of Interdependence

An examination of the global politico-economic system and the challenges facing world diplomacy. Multinational corporations and political struc-

tures designed to coordinate global policies for the monetary and trade systems, international organizations and their impact on third world development, and problems facing industrialized nations will be analyzed.

Courses in Quantitative Analysis
Department of Management Science

QA 600 Quantitative Analysis No credit

Basic mathematics for solving economic and business problems. Topics include algebra review, equations and inequalities, graphs, exponential and logarithmic functions, an introduction to differential and integral calculus, and matrix algebra.

QA 604 Probability and Statistics

Prerequisites: QA 600 or 9 hours of quantitative courses. An introduction to business statistics. Topics include data analysis and presentation, frequency distributions, probability theory, probability distributions, decision making under uncertainty, sampling and statistical inference, hypothesis testing, t, X, and F tests.

QA 605 Advanced Statistics

Prerequisite: QA 604 or IE 607. A continuation of QA 604. Topics include simple regression and correlation, multiple regression, analysis of variance, index numbers, time series analysis, seasonal and cyclical variations and an introduction of forecasting techniques.

QA 606 Advanced Management Science

Prerequisites: IE 601, QA 604-605. An examination, from a management viewpoint of the scope of applicability of the methods and models developed in IE 601, Introduction to Operations Research/Management Science, and QA 604-605, Probability and Statistics, and Advanced Statistics. Topics include parametric programming and economic interpretation of the dual LP problem, marginal costs and revenues, shadow prices, opportunity costs, incremental costs, costs of deviation from optimal solution point(s), and location or construction of desirable alternate optimal solutions.

QA 607 Forecasting

Prerequisite: QA 605 or permission of the instructor. A survey of some basic techniques and methods used in forecasting at the level of the firm and industry. Topics covered are naive forecasting methods, index numbers, types of economic fluctuations, criteria for fitting estimating lines. Gompertz curve, arithmetic straight line, parabolic trend, logarithmic straight line, seasonal variation, economic indicators, simple correlation and regression, multiple correlation and regression, curvilinear and time series regression.

QA 690 Research Project

Prerequisite: 15 graduate hours or permission of the instructor. Independent study under supervision of an adviser.

QA 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

QA 699 Thesis II
Prerequisite: QA 698. A continuation of QA 698, Thesis I.

Department of Biology, Environmental Studies and General Science

SC 601 Ecology for Environmental Engineers
An introduction to the biological aspects of environmental problems. Includes discussion of the concepts of bioecology, organisms (microorganisms, plants, animals) important in pollution control and detection, and human organ systems most affected by pollution.

SC 602 Pollutants and the Aquatic Environment
Prerequisite: SC 601. Discusses the interrelationships among the various kinds of pollutants, the morphology of the lake, river, or coastal area, and the effects on the individual organism and the ecosystem as a whole. Treatment methods using organisms are also discussed.

SC 603 Air Pollution
Prerequisite: SC 601. An introduction to air movements in the atmosphere and their relation to pollutants; the effect of air pollution upon organisms with special emphasis on the effects on human beings.

SC 607 Characterization and Treatment of Wastes with Laboratory
Procedures for identifying and treating potential pollutants produced by domestic sewage, industrial wastes, agriculture, mining, transportation, etc., are discussed.

SC 608 Water Quality
Prerequisites: SC 602, CH 601. Recognition of the organisms and substances of polluted waters; the selection of the appropriate methods for collection, testing, and analysis of the data. The functions and interrelations of governmental agencies in controlling water pollution.

SC 610 General Environmental Health
Principles of public health with general emphasis given to environmental factors such as air and water pollutants, legal standards and preventative measures and their relationships to public health.

SC 612 Freshwater and Marine Biology
Investigation of relationships between aquatic systems and the organisms living in these systems. Emphasis placed on the manner in which ecological studies of aquatic systems are conducted.

SC 621 Microbiology
Prerequisites: SC 301, SC 302, or permission of the instructor. An

in-depth survey of the groups of microorganisms ranging from the fungi to the viruses. Classification, growth, reproduction, metabolism and major impact on man will be stressed. Current literature pertinent to each group will be utilized.

SC 622 Bacteriology

Prerequisites: SC 301, SC 302, or permission of the instructor. Study of the characteristics basic to classification of bacteria. Group-by-group study of bacteria with emphasis on the major detrimental and beneficial contributions of each group as they affect man and the environment. Students will be expected to survey recent findings in scientific publications.

SC 642 Physical Aging

Prerequisite: SC 121. A study of the aging process in man and its effects on the various component systems of the body—muscular, skeletal, endocrine, etc.—in health and disease.

SC 690 Research Project

Prerequisite: permission of the instructor. Independent study under the supervision of an adviser.

SC 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

SC 699 Thesis II

Prerequisite: SC 698. A continuation of SC 698, Thesis I.

Department of Sociology and Social Welfare

SO 601 Minority Group Relations

An interdisciplinary survey of minority groups in the United States with special reference to ethnic, religious and racial factors that influence interaction.

SO 605 Culture and Personality

The effect of different cultures upon personality development. Cultural mores and norms as vehicles of control.

SO 607 Delinquency and Juvenile Crime

A general introduction to the field of delinquency and crime, including all aspects of the social and personal matrix out of which these forms of social destructiveness arise.

SO 608 Criminology

A survey of the available data and theories relating to the scope and nature of the crime problem, characteristics of offenders, and the factors that are correlated with crime. Emphasis on social institutions that play significant roles in the increase or decrease of criminal activity as it exists in the United States and in other cultures. Environmental and personality factors that influence criminal behavior.

SO 609 Comparative Social Organization

A comparative analysis of social and political organizations in cultures of varying complexity.

SO 610 Urban Sociology

Prerequisite: PA 604. The problem of urban growth and development. Residential patterns together with the physical development of cities and the redevelopment plans. An examination of the people and their relationships to the environment.

SO 620 Sociology of Bureaucracy

A study of some of the classic conceptualizations of bureaucracy and their relevance to the structure and functioning of American economic and governmental institutions. The course will be designed to give students inforational and experiental resources with which they, as planners and managers, can improve their abilities to make effective policy decisions.

SO 631 Population Problems and Human Ecology

A sociological approach to social demography with attention to population growth, patterns of distribution of population and the population changes and trends.

SO 635 Sociology of Law

A study of the social origins and consequences of law and legal processes. Emphasis on problems of legal change and the structure and functioning of legal sanctions. Emphasis on law and legal sanctions in other societies, including primitive societies. Major focus on American Society.

SO 641 Death and Suicide

In-depth analysis of suicide. Traditional theories of suicide are analyzed regarding the psychological approach as well as the demographic and group analysis of sociology. The goal of the course is both academic and practical, stressing community application.

SO 651 Social Gerontology

Basic introduction to the field of gerontology. Discusses the history and definition of the field, the contributions of academic disciplines to the field, various perceptions of aging, and explores the basic theories, problems and prospects of gerontology.

SO 652 Seminar in Gerontology

The seminar will focus on a topic or a series of topics crucial to the analysis of the gerontological phenomenon, and will explore interdisciplinary techniques and findings. Required of all gerontology students.

SW 651 Social Work with the Elderly I: Individuals, Families, Groups

This course will deal with the problems of aging, focusing particularly on the individual and the immediate family. Emphasis will be placed on the role of social work in helping the individual and the family to deal with issues of discrimination, medical and psychological problems, parent-child conflicts, death and dying.

SW 652 Social Work with the Elderly II: Programs, Planning, Policies
An introduction to the variety of private and public social service programs available to the elderly, particularly in south-central Connecticut. An attempt will be made to identify gaps and propose alternatives for future programming.

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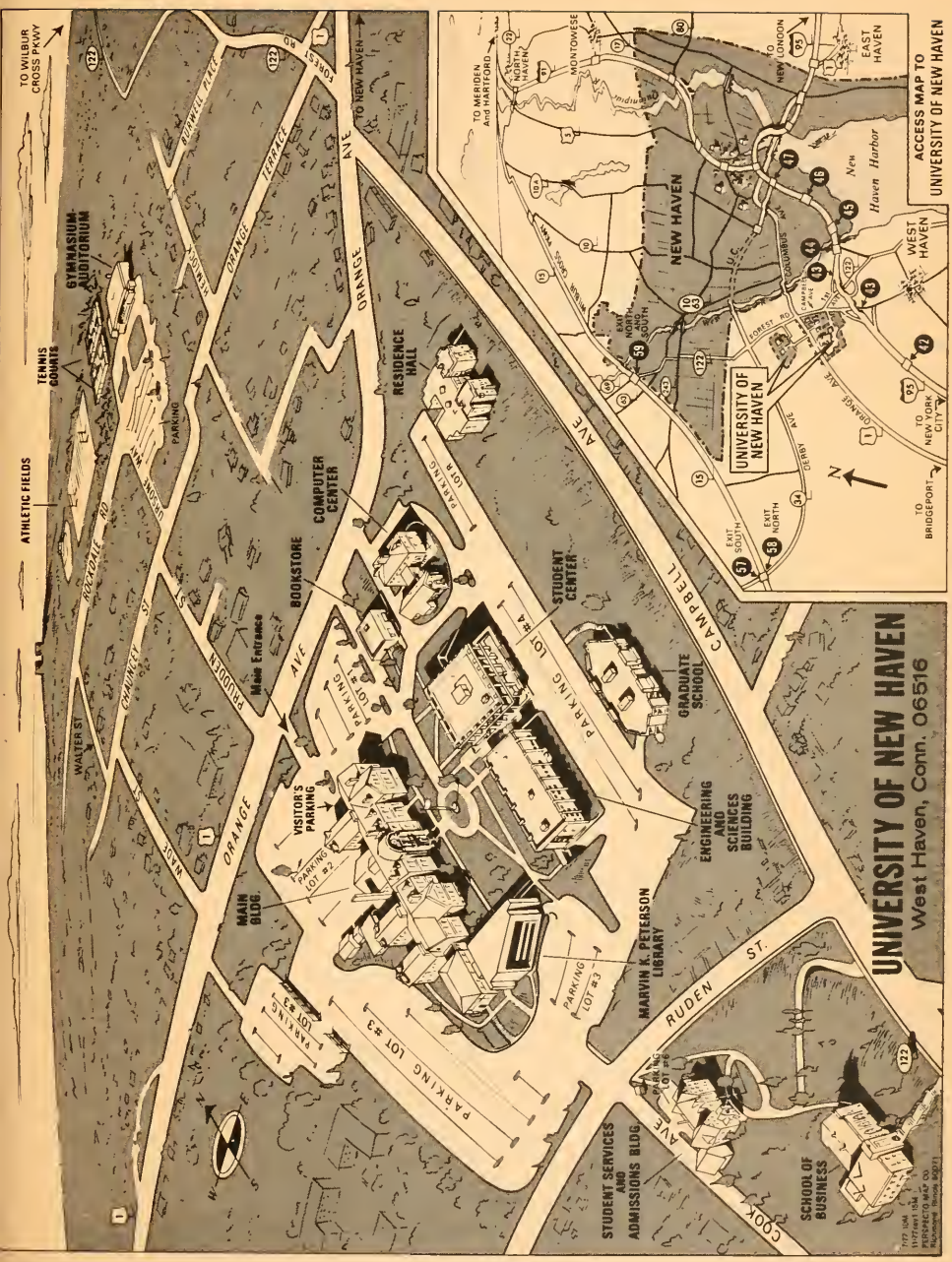
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